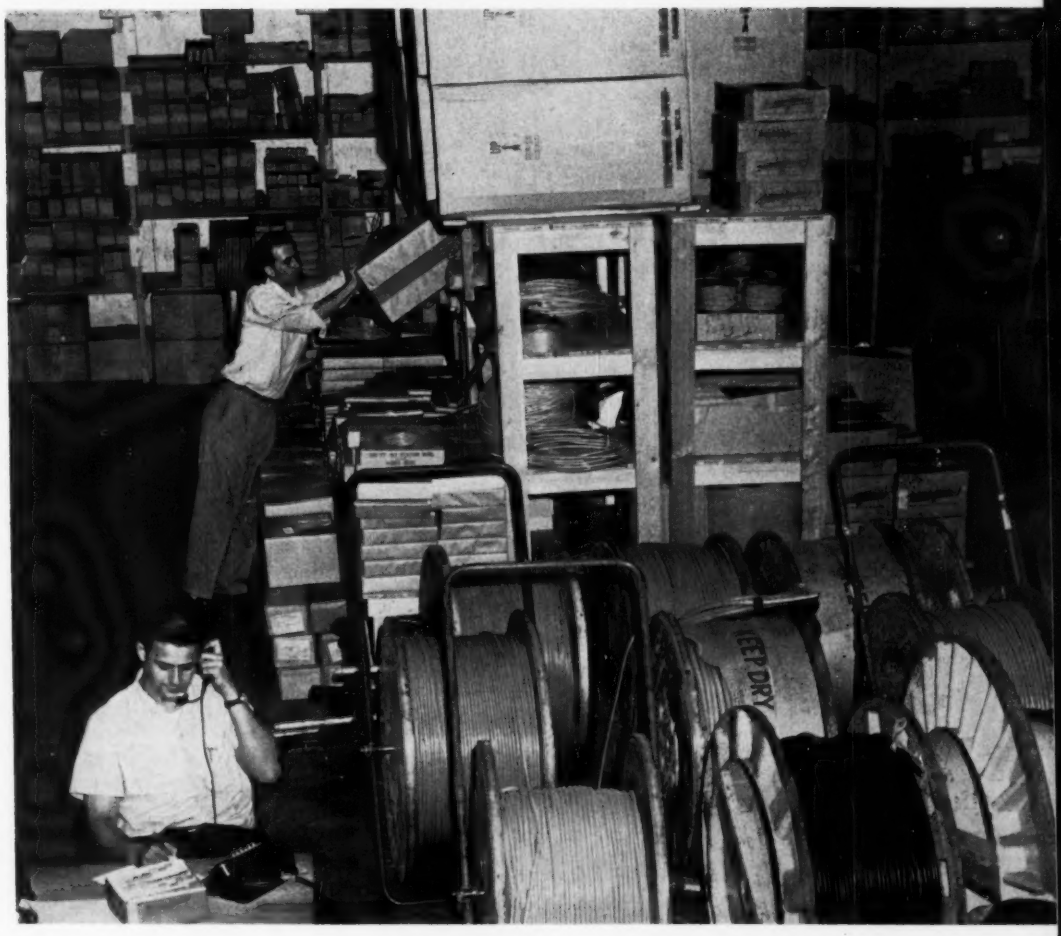
VOL. 160—NO. 13 APRIL 1, 1961

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY



Efficient management of materials carried in stock results in improving a telephone company's ability to provide service when customers want it and in increasing its net return. See p. 20.

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GENERAL DYNAMICS | ELECTRONICS

FLASHES AND PLUGS

PERHAPS, HE STICKS TO GINGERALE. A Prof. Colin Cherry, head of the electrical engineering department of Imperial College, London, England, is delving into the use, if any, of the vocal noise at a cocktail party. His scientific interest *may* provide a clue as to how the human mind makes use of what it hears.

This is very interesting, for it is generally known that people may not respond too brightly to what they hear on such occasions. Indeed, conversations get scrambled, and here, a writer for the *Milwaukee (Wis.) Journal* suggests, may be where scientist Cherry can help the telephone engineers unscramble scrambled conversations.

•

COULD BE FATAL! Someone probably goofed in proof-reading the local telephone directory at Harrogate, England. The UPI reports that patients telephoning a Dr. R. Leonard Barrett frequently get quite a shock. It seems, the local undertaker has the same telephone number!

•

GRUNTS AND GROANS OF GROWING. Norma Setlak, a Benton Harbor information operator for Michigan Bell Telephone Co., answered a subscriber's inquiry for a telephone number. It was one of the new seven-digit numbers.

When she gave it to him, the man made a note of it and laughingly said, "Gee, I just wanted a telephone number—not your Social Security number."—*Michigan Bell News.*

•

HE WAS STAYING CLOSE TO THE TELEPHONE. According to the UPI, this happened in Hollywood, Cal., where startling incidents occur every day.

A policeman named Peter Bernard saw a man carrying a pay telephone in his arms. Even in Hollywood, this seemed a bit strange, and the policeman politely asked, "Expecting a call?"

For answer, the man ran. He was captured after a short chase, and booked on—believe it or not, suspicion of burglary!

•

POTOMAC FEVER? The excitement over the inauguration of a new president, coupled with the heavy snow storm which attacked Washington at the same time, proved to be almost too much for some residents of the nation's capital.

Ruth Dougherty, switchboard operator at Mercy College in Detroit, Mich. reports that a long distance operator calling from Washington at the time of the festivities seemed to be almost overcome. She asked Miss Dougherty, "Is this KEnnedy 1-7820?" The exchange name normally is KEnwood.

CHANGE OF ADDRESS

Please notify your local postmaster and the Circulation Department of TELEPHONY of change of address. Change cannot be made without the old as well as the new address. Allow three weeks for change of address to become effective.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

1901 — 60 years — 1961

April 1, 1961

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Published every week on Saturday by TELEPHONY PUBLISHING CORP., 608 S. Dearborn St., Chicago 5, Ill. Entered as second class matter at the Post Office at Chicago, Ill., under the act of Mar. 3, 1879. 30c per copy (except special issues—50c). Subscription $4.50, 1-year; $7.00, 2-years; $9.00, 3-years. Add $1.00 per year for postage to Canada and Pan American countries; $2.00 per year to Foreign countries. Telephone WAbash 2-2435.

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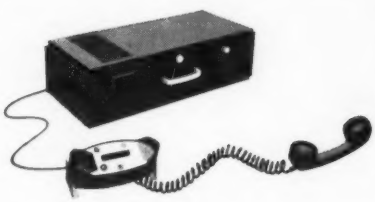

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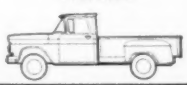
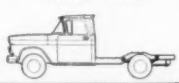
Model	Max. Load	Body Length
K1434	1400 lb.	6½′
K1534	1300 lb.	8′
K2534	2950 lb.	8′

STEPSIDE



Model	Max. Load	Body Length
K1404	1450 lb.	6½′
K1504	1350 lb.	8′
K2504	3050 lb.	8′

CHASSIS-CAB



Model	Max. Load	Wheel-base
K1403	1900 lb.	115″
K1503	1850 lb.	127″
K2503	3500 lb.	127″

PANEL

Model	Max. Load	Body Type
K1405	1300 lb.	7½′ Panel
K1406	1000 lb.	Carryall (panel type rear doors)
K1416	1000 lb.	Carryall (tailgate and liftgate)

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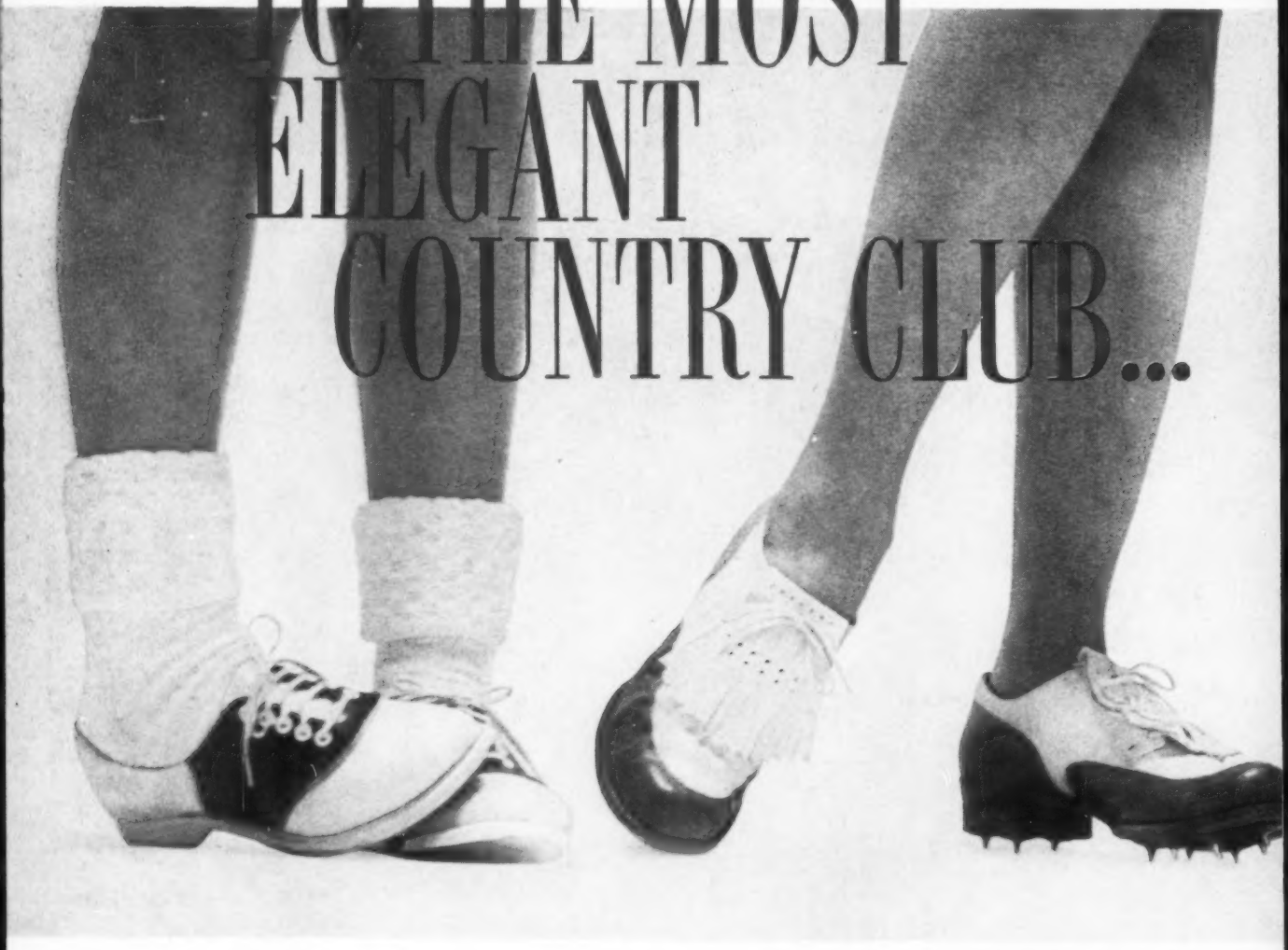

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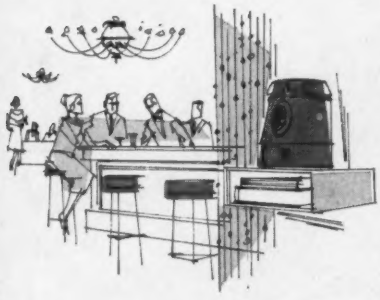

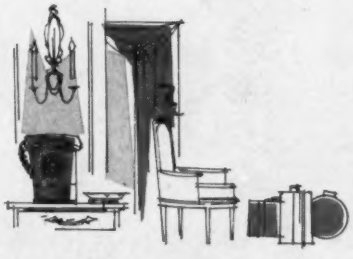

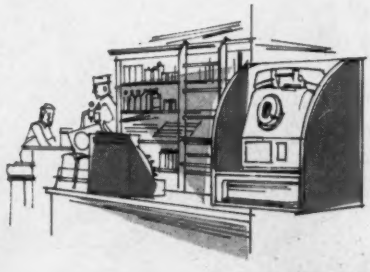

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In Hickory, North Carolina, Central Telephone Company reports:

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*Trade Name of Aluminum Company of America

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new TYPE 60 loading coil offers greater

Meet AE's new *stock* Type 60 Loading Coil. It's a high-voltage loading coil—at least 10kv's DC between windings—for use with today's plastic cable and designed to meet REA specifications. Type 60 brings you these two important benefits:

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Single Type 60 Loading Coil with high permeability core. Individually potted in a moisture-resistant resin shell.

Lead cased assembly for strand, pole or burial installation. Available with 25, 50, 75, 100, 125 or 150 coils. Can also be ordered in steel cases for pole or burial installation.

flexibility, faster installation

Multiple-coil potted assembly mounted in splice case. Available in multiple-coil assemblies of 3, 6, 12, 18 and 25 for splice case mounting.

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- **TWO OR THREE DIGIT DIALING BETWEEN ROOMS** (May be restricted by PABX attendant in late evening hours.)
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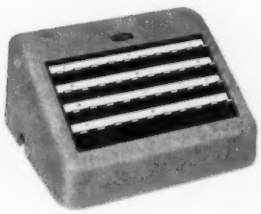
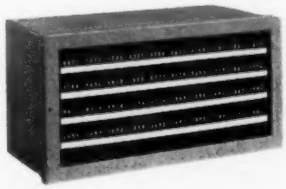
- **ANY STATION MAY CALL OUTSIDE TO MAIN EXCHANGE** without waiting for attendant. Charges on local calls are automatically tabulated on message register cabinet. (Toll calls may be restricted if desired.)
- **ROTARY LINE SERVICE** permits listing only one number for a group of telephones. For example, if you dial "5" for maid service and the line is busy, you are automatically routed to an idle telephone in this department.

Boost your profits with Leich PABX's. Write today for complete information.

KEYSET TURRET EXTENDS INCOMING CALLS QUICKLY.



MESSAGE WAITING TURRET



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IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR
AND EDITOR, PUBLIC UTILITIES FORTNIGHTLY

Kennedy's 1962 fiscal budget would (1) produce 1.8 billion dollar deficit; (2) increase REA's lending authority; (3) continue corporate and excise taxes due to end on June 30. President also plans Consumer Counsel to represent consumers' interests in proceedings before federal regulatory commissions (among other things). AT&T, General Tel-RCA-Lockheed, and General Electric in race to orbit communications satellites.

ON MARCH 24 President Kennedy sent to Congress his revised budget calling for extra defense and welfare spending. This budget covers the fiscal year 1962 and Kennedy estimated that it would run 1.8 billion dollars in the red, aside from extra defense spending. This, of course, reflects the new President's appraisal of an advance budget originally prepared by the Eisenhower administration, with an estimate that it would yield a 1.5 billion dollar surplus. Likewise, Kennedy estimates a 2.2 billion dollar deficit for fiscal 1961, which ends next July 1, as compared with an Eisenhower forecast of a 79 million dollar surplus.

Aside from the political overtones which one expects in such a situation, involving a change of political party control of the White House, it is clear that President Kennedy has in mind some spending for social and domestic welfare purposes which the Eisenhower administration did not plan: 400 million dollars in farm supports, 550 million in temporary unemployment benefits, as well as budget increases expected by the Kennedy administration for housing, education, and medical care now before Congress but not yet authorized.

Of interest to the telephone industry are two items to be found in the detailed breakdown of the Kennedy budget. One of these would boost Rural Electrification Administration lending authority by 100 million dollars over and above the Eisenhower budget proposal. It will be recalled that Eisenhower proposed 115 million dollars for rural electrification and 100 million for telephone loans, plus a 30 million dollar contingency fund for each program. If Kennedy's budget is approved, this additional 100 million dollars would be split evenly between the telephone and rural electrification programs. In other words, REA's new telephone lending authority for the coming fiscal year would be 150 million dollars, instead of 100 million in the Eisenhower budget. The contingency funds, however, would be dropped.

The President's special message to Congress on Mar. 16 contains one significant paragraph which indicates that the rural telephone program, as well as the cooperatives, are very much on the President's mind. After discussing other farm credit features, the President stated:

"I have also directed that the Rural Electrification Act be administered in accordance with the original intent and purpose of that program, which has done so much to advance agriculture throughout the nation.

"Over 95 per cent of our farms now have electricity. But much remains to be done. There are constantly increasing demands for additional power. *Only one-third of our farms have modern telephone installations. The cooperatives which so successfully brought light and power to the farm can make an enormous contribution to the continued development of our rural communities.*" (Italics supplied.)

Incidentally, REA expects to play an enlarged role in the administration of President Kennedy's depressed area bill —if Congress approves it. The part REA would play, of course, would be in the rural communities. Addressing an annual meeting of the Wisconsin Electric Cooperatives at Madison on March 23, the new REA administrator, Norman M. Clapp, said:

"If President Kennedy's depressed areas legislation is enacted with a provision for backing a rural community improvement program with federal loan funds, I hope that REA can play a role in that program.

"At the very least, I hope that REA will have an opportunity to pioneer a demonstration or pilot project to prove that the old REA approach can be applied to creating new kinds of community enterprise."

Excise Tax Still Needed—Kennedy

There was, in the President's message of Mar. 24, a reference to a continuation of corporate and excise taxes scheduled to be dropped or end next June 30. The President asked Congress to continue these levies which, of course, would include the present 10 per cent tax on monthly telephone bills and long distance messages. He said also that he would make other tax proposals later to stimulate business investment "and achieve greater tax equity." But whether this will contain any relief for the telephone subscriber as such is doubtful. On this recommendation, of course, President Kennedy is simply following the same line

President Eisenhower followed in asking for a continuation of the excise tax because of federal revenue requirements.

Kennedy Plans Consumer Aid

Speaking of telephone subscribers as such, President Kennedy has indicated that he expects to set up a White House office in the near future to represent all consumer interests. Furthermore, this office will probably be headed by a woman. According to press reports, the leading candidate for the job will be Mrs. Persia Campbell, who was a consumer adviser to former Governor Averill Harriman of New York. She is now professor of economics at Queensborough Community College, New York.

This development might be of interest to all utility groups, as well as other retail business, where the so-called consumer interest has become a matter of political interest. The new Consumer Counsel, backed by a staff of lawyers and economists, would represent the consumers' interests in proceedings before regulatory agencies (Federal Power Commission, Federal Communications Commission, Interstate Commerce Commission, and Federal Trade Commission among others). It would also formulate broad economic policies.

It was further indicated at the White House that parallel consumer advisory committees would be established in such departments as Agriculture, Labor, Commerce, Health, Education, and Welfare. These committees would work with the White House Office of Consumer Counsel to make sure that the consumer's point of view is reflected in the consideration of over-all government policies.

It is noteworthy that the proposed Consumer Counsel would be most effective as a "people's counsel" in proceedings before the regulatory commissions. The idea of a people's counsel for regulatory cases is not new. They still have them in Maryland and Indiana, and they used to have one in the District of Columbia before former President Franklin Roosevelt put an end to it. Roosevelt also vetoed the establishment of such an office when he was governor of New York in 1932.

More recently, however, the Massachusetts Legislature changed the regulatory law of that state to provide that one of the five members of the department of public utilities shall be a woman with "experience from the consumer point of view." As far as this writer knows, Massachusetts is the only state with such a provision in its regulatory law. The change was made only a couple of years ago and it may be that the consumer appeal, or political appeal, of such legislation might have impressed the U. S. Senator from Massachusetts at that time, John F. Kennedy.

The Democratic platform for 1960 supported a "Consumer Counsel." And in a campaign speech to Bronx housewives on Nov. 5, Kennedy promised to support a Consumer Counsel in the White House to represent the interests of consumers in the administrative procedures of the government. He said that one of the first tasks of the Consumer Counsel will be "to help formulate economic policies which will keep a general rise in the price level from having a discriminatory effect upon the wage earners of the United States and their families."

Other functions of the Consumer Counsel that were listed by Kennedy included scrutinizing "the activities of all governmental agencies which have a responsibility of regulating business activities in the public interest"; representing consumer interests before congressional committees; and keeping the President "informed about any deficiencies in administration harmful to the consumer."

Sen. Estes Kefauver (D., Tenn.) and other members of Congress have proposed expanding the Federal Trade Commission into a Department of the Consumer. Sen. Jacob K. Javits (R., N. Y.) has urged the establishment of a congressional Joint Committee on Consumer Problems.

Paul Rand Dixon, the new chairman of the Federal Trade Commission, is particularly concerned over consumer problems. So are Secretary of Agriculture Orville L. Freeman and HEW Secretary Abraham H. Ribicoff. Freeman had a consumer counsel when he was governor of Minnesota, so did Ribicoff when he was governor of Connecticut, but they were not tied to utility regulatory duties as were the special counsel earlier mentioned with respect to the District of Columbia, Indiana, Maryland, and New York.

Satellite Derby

The race to orbit communication satellites is open to all, according to the views expressed by AT&T President Frederick R. Kappel in an address to the North Carolina Citizens Association in Raleigh. But he pointed out that the Bell System is confident that it can develop a high-quality space communications system "in the shortest possible time." The inference was that AT&T is ready to go now, whereas some of the later entries in the derby may still have to do more work on their programs. But Mr. Kappel stressed the fact that AT&T is not trying to set up

Convention Calendar
1961

Association	*Date*	*City*	*Hotel*
Mississippi	Apr. 17	Unannounced	Unannounced
Ohio	Apr. 18 and 19	Columbus	Deshler Hilton
Wisconsin	May 2 and 3	Milwaukee	Plankinton House
Indiana	May 10 and 11	Indianapolis	Claypool
Illinois	May 17, 18 and 19	Peoria	Pere Marquette
Kansas-Missouri*	May 22 and 23	Kansas City, Mo.	Continental
Pennsylvania	June 5, 6 and 7	Pocono Manor	Pocono Manor Inn
Washington-Oregon*	June 15 and 16	Victoria, B. C.	Empress
New York	June 19, 20 and 21	Schroon Lake	Scaroon Manor
California	June 26, 27, 28, 29 and 30	Honolulu, Hawaii	Hawaiian Village
Alaska	Aug. 21, 22 and 23	Palmer	Unannounced
Tennessee	Sept. 6 and 7	Nashville	Hermitage
Arkansas	Sept. 11 and 12	Hot Springs	Arlington
Rocky Mountain	Sept. 13, 14 and 15	Boise, Ida.	Owyhee
Georgia	Sept. 14 and 15	Jekyll Island	Corsair Motel
Michigan	Sept. 19, 20 and 21	Grand Rapids	Pantlind
Nevada	Sept. 19, 20 and 21	Elko	Stockmen's
USITA	Oct. 8, 9, 10 and 11	Chicago	Conrad Hilton
South Carolina	Oct. 23 and 24	Clemson	Clemson House
Virginia	Oct. 26 and 27	Roanoke	Roanoke
Oklahoma	Nov. 8 and 9	Skirvin	Oklahoma City
Florida	Nov. 26, 27 and 28	Miami Beach	The Carillon
North Carolina	Dec. 4 and 5	Pinehurst	Carolina

*Joint meeting

any monopoly in space communications and it is still a wide-open field. He said on this point:

"The creation of the satellite system we propose in order to do our public service job as it ought to be done would not under any circumstances preclude the development of other space communication systems. Space is a great big place and we don't expect to fill it."

He added that there is "nothing whatever in our proposals that would conflict with the American tradition or limit the opportunity of others. On the contrary, the opportunities of others would be increased."

The AT&T president feels that these space communications systems are simply an extension of communication networks now in operation—just another way to get the long distance calls across the ocean, so to speak. There would be government regulation, and private company ownership cooperating with foreign terminals owned by foreign communications systems. American telephone companies have long been able to work harmoniously with foreign telephone agencies on such enterprises. Furthermore, Mr. Kappel visualizes that the communications satellites would be available for all on an international "common carrier" basis of usage, as approved by the Federal Communications Commission. This could be done by leasing, as in the case of ocean cables, or joint ownership.

Kappel made another point that ground station equipment, as well as many elements of the satellites themselves, would have to be obtained by AT&T on a competitive basis from other companies. In addition to the AT&T, which already has been assigned microwave frequencies by the FCC for an experimental satellite, two other major American corporation entries in this field have asked for microwave frequency assignments from the FCC. General Telephone & Electronics Corp., together with Radio Corporation of America (RCA), and Lockheed Aircraft Corp. plans to orbit communication satellites costing in an estimated range of 110 million to 200 million dollars. The AT&T program calls for an eventual system of 40 or more satellites in random orbit, to cost an estimated 170 million dollars.

Most expensive of all, according to advance information is the General Electric proposal calling for 10 satellites in controlled orbit at a price tag of about 280 million dollars. Chances of General Telephone-RCA-Lockheed have been enhanced by a Justice Department announcement that anti-trust laws may not permit any one company system to gain control over a future communications network. Lockheed's part of the deal would be in providing launching and propulsion for the satellites, while General Telephone and RCA would handle the communications end of the business.

A group of friends and neighbors, affiliated with the telephone industry in Wisconsin, staged a "bon voyage" dinner for Norman Clapp, when it was announced that he had been named REA administrator in Washington, D. C. Francis Willkomm, manager of the Farmers Telephone Co., Lancaster, arranged the function. Prior to being named administrator, Mr. Clapp had published the Grant County Independent at Lancaster. He and Mr. Willkomm served on various civic committees together. Among those attending the dinner were, left to right, standing: L. J. Robertson, president, Wisconsin Telephone Association; John Welch, president, Peoples Telephone Co., Mt. Hope, and Ray J. Riordan, executive secretary, Wisconsin Telephone Association. Seated, left to right are: Carl Forck, president, Farmers Telephone Co., Lancaster; Mr. Clapp and Mr. Willkomm.

Proposal to Change FPC

Representative Harris (D., Ark), chairman of the House Interstate and Foreign Commerce Committee, has thrown a bill in the hopper that would enlarge the membership of the Federal Power Commission—from five to seven members. It also would give the President unqualified authority to remove the chairman of the commission at his pleasure. This does not mean removing a chairman from the commission. It would simply give the President the right to tell the chairman to step down and make room for a new designee to the chairmanship.

This is precisely what President Kennedy has in mind with respect to the Federal Power Commission, where the present chairman, Jerome K. Kuykendall (an Eisenhower appointee) has declined to step down. President Kennedy has indicated that he wanted to appoint a chairman of his own choice and already has mentioned a Nashville attorney, Joseph Swidler, long-time general counsel for the Tennessee Valley Authority. As the law stands, President Kennedy does not have the clear authority to remove Chairman Kuykendall until the latter's term expires, which will be 1962. In other words, the present law seems to give the President the right to name a chairman but not the right to remove him except for cause (misfeasance in office, etc.).

Representative Harris' bill is, by no means, certain to pass. It is bound to raise the cry that President Kennedy is trying to pack the Federal Power Commission by gaining control through an appointment of a majority before the time he would ordinarily have such appointive power. There is also the question of whether the Harris bill, even if enacted, would be validly retroactive as applied to Kuykendall. Furthermore, there is the question of whether it would undermine the independence of the commission. In other words, there seem to be enough legal questions here for the Republicans, and anybody else in Congress so inclined, to make a fight of it.

With all the other problems facing the President in Congress and a number of close votes coming up on much more important legislation, this writer's guess is that the Harris bill will stay in the cooler for a while. It may not even emerge from committee at the present session of Congress.

Controlling the Cost of General Services Through

Efficient Management of Material

By W. V. BENJAMIN*

IN THE DAYS of the Model T Ford, the automobile dealer had no real problem in meeting his customer's demand. With one black touring car, and one black roadster, in stock he could provide immediate delivery to any customer. With today's multiple choice of color, engines, transmissions, body style, tires, and accessories, it becomes impractical to carry the full product line in stock. In most cases it is necessary to place an order on the factory to have the car built in accordance with the customer's choice.

The telephone industry has gone through the same evolution. We had a simple supply problem in the days of the black desk stand, or the black "cradle phone." However, compare that with today's variety of telephone sets alone, and you realize the complexities of our current supply problem. Providing even the ordinary residential service may require either a regular desk set, or a wall set, or a Princess, Petite, Starlite or Cinderella set, with a variety of color choices for each.

Material Must Be In Plant

In order to provide telephone service when the customer wants it, most of these varieties of telephone sets must be available locally for immediate use. With the continuing increase in the product line, as well as the increase in the kinds of material used in the outside plant, the need for efficient management of material carried in stock becomes increasingly important.

The fundamental reason for purchasing material is to provide a communication service, and it does not fulfill this purpose until it is actually installed in the telephone plant. During the interim period that it is riding around in the truck, or setting on the storeroom shelf, it represents money that has been spent in anticipation of service requirements. It is, in effect, idle capital dollars that were either borrowed, or taken from retained earnings, but which will not produce revenue until it is in service. Consequently, a reduction in the amount of this material means a reduction in capital requirements, and a corresponding increase in the net return.

Lost Time Factor

While this is simple economics, it is not given too much consideration by the average operating supervisor because the over-all effect upon cost is not apparent in the normal measurement of the particular supervisor's operation. On the other hand, if production time is lost because material is not available when needed, this is apparent in the operating results.

That is why it becomes necessary to place special emphasis on the investment in field supplies. Without it, the operating supervisor would tend to play it safe by making sure that he always has enough material to take care of his requirements. This will generally result in carrying more than minimum requirements, and in scheduling major items of materials so that they are received well in advance of the time they are actually required.

Second of Series

This article is the second of a series on "Controlling the Costs of General Services," by Mr. Benjamin.

The first article appeared in the Feb. 18 issue. The third article on "Efficient Management of Buildings" will be published in the Apr. 8 issue, and the fourth and last installment, on "Efficient Management of Vehicle Fleets," will appear in the Apr. 15 issue.

The objective of efficient management of field supplies is to provide the material as close as practical to the time that it is actually required for providing communication services. Consequently, the measure of efficiency is turnover, or the average investment, divided by the average daily usage, to show the number of days' stock on hand. For practical accounting purposes, it becomes necessary to apply this measurement over a wide variety of material, and over a large geographical area. However, in order to improve the results, the fundamental objective must be considered in analyzing the individual parts of the over-all operation.

Truck Traveling Storeroom

The individual installer's truck is, in effect, a traveling storeroom. The purpose of this traveling storeroom is to provide the material the installer needs during the day. Since the truck normally returns to the local storeroom at the end of the day, the actual requirements of the material carried in the truck is one day's stock. Theoretically, the truck should return at the end of the day with no material, but this is, of course, impossible. However, the closer the material usage approaches that point, the more efficient is the individual installer's management of material.

Since it is not practical to forecast usage during the day, the administration of what material should be carried on the truck, must be determined on the basis of good management judgement, and with full recognition of a calculated risk. Unusual requirements, or special demands, will occasionally mean a trip to the storeroom, but that might still be good business if it does not happen too often. In other words, material carried on the truck should be based upon the kinds, and quantities that the installer might be expected to use in a normal day, plus the material

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required for special service orders that he has before leaving the garage.

Must Pick Colors

For example, if three-fourths of the demand for color in the particular installer's area is taken care of by ivory, white, and beige, there would be little justification for carrying any additional colors. When he has a service order for a red set, he should add that to his stock before leaving the garage. However, he might still encounter a situation where the customer changes the color specified on the order, and requests a red set. That means a trip back to the storeroom. If this occurs once a week, then it would be good business to add a red set to the normal truck stock. If it only happens once or twice a year, then it might still be good management to pay the penalty for the extra trip back to the storeroom.

The function of the local storeroom is to provide a supply of material for replenishing the individual truck stocks, and to provide for the type of material that is used frequently, but not often enough to justify being carried on the truck. The quantities of material carried will depend upon the time interval for the re-ordering cycle.

Empty Trucks Objective

The perfect operation would be one in which the last piece of material was being taken off the shelf as the truck pulled into the storeroom with the new supply. That is, of course, pure fantasy, but it is the objective towards which efficient management of the storeroom approaches. Too often, the local storeroom is considered the protector of all possible requirements, so that it is not too unusual to find a large item of material in a local storeroom that carries the pencil marks of several annual physical inventories.

The kinds and quantities of material carried in the local storeroom should be determined largely by past usage, plus current changes in usage that will affect the supply. Where the operation is large enough to justify it, a stock maintenance card for each item of stock provides an effective record of past usage. A simple card, showing the designated name of the item with columns for posting the date of the order and quantities ordered, is all that is required. However, it must be recognized that this is a record of past usage, and must be tempered with judgment for current needs, or special programs that will change the previous rate of usage.

Materials for Special Jobs

Perhaps the greatest potential for improving material management may be found in the material ordered for special projects. This includes large cable facility jobs, PBX installations, extensive wiring plan jobs, and other similar jobs involving high cost material items. Because the material investment is high, it is essential that these items be converted to revenue producing plant with a minimum of delay. In many cases, this material cannot be placed in service until other work is completed, so that a coordinated job of planning is necessary to avoid a high investment. The job is further complicated by the fact that oftentimes, long ordering intervals are required, so that advance planning must be done months before the work actually starts.

"BETTER TOSS ME A FEW OF YOUR TOOLS, CHESSMORE – I FORGOT TO TELL YOU IT'S A LITTLE MARSHY IN THERE."

Cable material generally represents the majority of the investment in construction material carried in stock. Efficient use of this material requires a well-managed engineering and construction program. Detailed engineering plans must be available to the construction forces in time for them to order the material. If conduit work, or pole line work, is involved, there must be sufficient lead time on these jobs to make it possible to complete this work before the cable is received.

Sequence of Usage

When the construction forces order the cable material, they should give consideration to the rate, and sequence of usage. The easy way is to order all the cable, terminals, and loading coils for delivery prior to the time the job is expected to start. The efficient management way is to schedule the actual delivery in a logical sequence that will be consistent with the expected rate of usage. If the job is a big one that will require several months for completion, then good management will separate the order into several parts with a different delivery schedule for each part, consistent with the planned usage. With this type of planning, it should be possible, in most cases, to return empty cable reels within a few weeks after the cable is received.

PBX switchboards represent another high investment item. Whenever possible, delivery of a PBX switchboard should be made direct to the customer's premises, rather than unloading it at the local storeroom and subsequently moving it to the customer's premises. When one questions why a switchboard is standing in the local storeroom, the usual answer is that the customer is not ready for it because of delays in his building construction. However, if a check had been made shortly before the scheduled delivery, it is very probable that a revised shipping schedule could have been obtained that would conform to the latest estimate of the building availability.

Advance Planning Required

Wiring plan equipment for a specific customer's service is another high investment item that oftentimes runs into long delays from the time it is received until it is producing revenue. With the complex key telephone units used in present wiring plan systems, the investment in this material held in stock can readily become a major item in the total station apparatus material in stock.

Efficient use of this material requires advance planning, and follow-up with the customer, especially where building construction is involved. It also requires work load planning, so that the manpower needed for the installation will be available when the job is ready to start. Because of the number of manhours required for some of these wiring plan jobs, failure to properly anticipate the work load may not only result in an increase in investment, but may also result in a failure to provide the customer with service when he wants it.

The local storeroom generally obtains a replenishing supply of material by ordering from a central warehouse. If the amount of material maintained in the local storeroom is to be kept at a minimum, then the function of the central warehouse must meet the following requirements:

(1) The time interval from the start of the local order to actual delivery must be as short as practical.

(2) The maintenance of stock at the central warehouse must be reliable with an absolute minimum of out-of-stock items.

(3) Special short-cut procedures must be available to the local storeroom for taking care of special demands, or for special emergency requirements.

(Continued on page 24)

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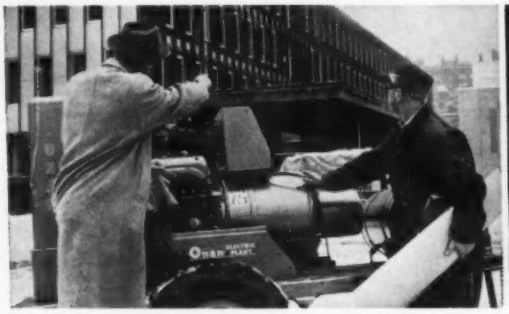

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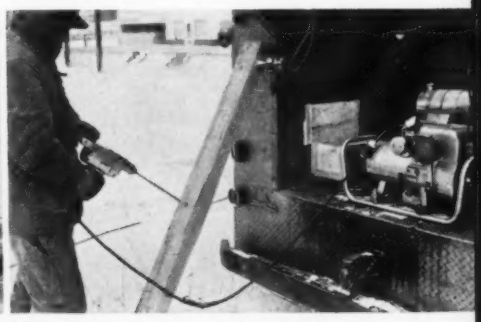

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Good Judgment Required

The determination of proper ordering frequencies for the local storeroom is a subject that seems to intrigue the mathematicians, because volumes have been written on the problem. However, since most of us don't have an electronic computer available to make all the calculations, we have to rely on good judgment, which, for all practical purposes, is good enough. It is obvious that too frequent ordering will increase order handling and transportation costs much more than the saving in investment will justify. It is also obvious that too long an ordering interval will make it necessary to carry more stock locally. Consequently, the ordering cycle for each specific location must be determined on the basis of material usage, and is a compromise of all the costs involved.

Whether orders should be placed daily, three times a week, or bi-weekly, would depend upon the amount of material used, and the length of time it takes to obtain a new supply. There is no point in establishing a daily ordering procedure if it takes three days to obtain delivery. The local storeroom should have received delivery on the previous order before they place the next order for stock.

Short-Cuts Used

Various short-cuts are being used to simplify and shorten the ordering procedure. For commonly used material, such as telephone sets, a pre-printed requisition with the items of material and accounting information printed on it simplifies the actual preparation of the requisition. The field forces have to show only the shipping destination and the quantities. However, constant changes in the type of material make frequent revisions necessary, and even then the items shown on the pre-print will be out of date a large part of the time.

For large material-using storerooms, a telephone ordering procedure is effective. Items of material may be assigned a numerical code, and the central ordering point uses pre-punched cards for each coded item. The local storeroom calls in the order by material code numbers with the desired quantity for each item. The prepunched card is then used with data processing equipment to print the order at the central ordering office.

Field trials are also being made of a fully mechanized procedure using data transmission from the local storeroom to the central warehouse. The next few years will, undoubtedly, bring many possibilities for mechanizing the entire ordering procedure, but the application of such procedures will, of course, depend upon volume, and the actual economies to be obtained.

Central Warehouse Is Key

If there is any place where a tendency to err on the high side in determining stock levels, could be justified, it would be at the central warehouse. When it is out of stock, the problem becomes amplified throughout all the local storerooms that it serves, and this generates a tendency for each location to over-stock so as to protect against re-occurrence. This is particularly true if the item of material is one that is used every day for providing customer service.

If the operating forces are to maintain a minimum of stock, they must have confidence in the ability to obtain a replenishing supply when they need it. This confidence will only come from a consistent record of performance and a minimum of back orders. For material such as the normal telephone sets, or drop wires, even a single back order will remain in the memory of the local force for a long period of time, and especially so, if there was any appreciable time lost by the central warehouse in getting back in stock on the item.

With the wide variety of communication services offered today, it becomes impractical for the local storeroom to carry everything that might be used. For the infrequently used items, it is more economical to depend upon a stock at the central warehouse. However, in order to meet the customer's requirement, this means that the local storeroom must be able to call for special service and to obtain expedited handling for such items. The same procedure should be available for unusual demands that could not be anticipated, and for special material required for repairs where customer service is affected. A properly-managed central warehouse must have the flexibility to meet these special order requirements, if the local storeroom is expected to operate at a minimum level.

Measurement Needed

Most of the discussion, so far, has been directed at basic principles, and procedures. However, the final result depends upon how well these principles and procedures are applied. Like all other phases of operations, there must be some kind of a measurement of how well the job is being managed, and some way of determining weak spots that need further attention.

The over-all measurement of days' stock on hand may be obtained for an entire company, or a division, or perhaps, a district, but it becomes impractical to set up the necessary records for any smaller unit of operation. It is essential, however, that the measurement be made over as small a group as practical, so that the responsibility may be defined.

For example, if a company having three division construction organizations, maintains a company-wide inventory control of cable material in stock, it becomes difficult to determine who is doing a good material management job, and who is not. A separate control by divisions not only provides a measurement in line with the responsibility, but has the added advantage of providing a competitive spirit between the three.

Since the administrative control is generally limited to a large geographical area, there must be some procedure for making a quality check of the kind of a job that is being done by the local storeroom, and even the individual truck.

Depending upon the size and type of organization, this may be accomplished by either a formal inspection procedure that is made a part of the job of local supervision, or by a specialized staff function on either a district or division basis. Whatever procedure is used, it is essential that some kind of a periodic inspection be made of both the storeroom and the trucks. This inspection should attempt to evaluate the quantities of material on hand in terms of usage, insofar as it is practical to do so.

Reordering Cycle

Consideration should also be given to the reordering cycle in evaluating the reasonableness of the material on hand. Such a procedure should make it possible to identify the weak spots and to bring about improvement. Such inspections should, of course, be made jointly with local supervision so that it actually sees the results itself.

The problem of effective management of material in the telephone industry is very complex because of the widespread scope of operations, and the fact that practically all craft employes are material-using employes. In spite of all that has been done to impress supervision with the fact that material represents money, this is still only partially recognized in actual operations. You can give a foreman a $100.00 cash advance to cover travel expenses, and he will safeguard it while it is in his possession, and accurately account for every cent of it. But give him the equivalent of ten times that amount in material, and you will generally find an entirely different attitude in the effective use, and control of this equivalent money.

Procedures, practices, and logistics,

(Continued on page 54)

today's Highlights

of finance-taxes-business trends

by Willard F. Stanley

BOND RISE SLOWS TO HALT: The rise in bond prices which had persisted for the past 100 days or more, ground to something like a stop during the 30-day period ended Mar. 20. Slight improvement in yields was made during the period, but toward the end thereof yields turned up a bit, and bond prices receded moderately. Nothing like the drastic reductions in yield which had been registered in from 30 to 90 days back were recorded during the last few weeks, however.

The bond market was still being aided by the dearth of new offerings, which was again evidenced by the Wall Street Journal tabulation of new utility funded debt issues. At Mar. 16, only eight new issues were reflected in the tabulation compared with seven about a month earlier and with a usual average of about 12 or 13. At Mar. 16, average yield based on then current bids on these eight new issues was six decimals (0.06% per annum) lower than the average yield on the basis of the original offering prices of the securities. However, there was a significant deviation from the previously mentioned tabulation of about a month ago, for in the older one every issue included recorded a higher current bid price than the offering price.

In the Mar. 16 tabulation, however, five issues showed higher bids than offering prices, but three issues had bids below the initial offering. While the tabulation does not give the respective offering dates, there can be little doubt that the three issues with lower current bids were those issued more recently than the others and reflect a moderate correction in the substantial upward movement recorded during the last few months.

The recent "surprise" Treasury "advance refunding" offering, whereby longer-term securities were offered in exchange for outstanding ones, seems to have been reasonably well received. As all the new securities mature within five years, they do not compete with utility funded debt offerings.

Whether due to the President's action to prevent outward net flow of gold, or due merely to drying up of gold speculation which might be based on the apparent intention of the administration to preserve the dollar's value, the week ended Mar. 15 saw, for the first time in nearly 20 months, a net inflow of gold to this country from abroad. This shift may be only temporary but it may also indicate a lessening of the gold outflow problem on a more permanent basis.

Despite various implements being used by the administration to hold down long-term yields, we incline to the opinion that we have seen yields so far this year just about as low as they are apt to be for some months to come. The drop in yields

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since Jan. 1 has been enough to seem to call for some corrective modification before bond prices commence any further sharp rise.

Therefore, it would appear that utilities planning to bring funded debt issues to market within the next several months should do so as rapidly as possible, even though it may mean getting the money a little before it is actually needed. As to common stock funds, the green light for new issues to take care of equity requirements well into the future never seemed to burn brighter for many years back. Not only have the utility averages moved up smartly, and the price earnings ratios (indicating the before-expense cost of money to issuing companies) continued to improve for utilities generally, but Independent telephone companies have in recent months, in most cases, given an exceptionally good performance.

Prices may, of course, go still higher at later dates, but they seem high enough presently to warrant proceeding promptly with equity financing, even to the extent of raising future requirements up to two years or more ahead.

* * * *

STOCKS CONTINUE TO EDGE FORWARD: After running into a rather prolonged, but not too severe, reaction in early March, the stock averages rallied to accomplish a recovery nearly to the highs for the year. The New York Times average of 50 combined stocks at Mar. 24 stood about 2 per cent above the Feb. 21 level. Furthermore, the Mar. 24 figure was 9 per cent above the 1960 year end, and 3 per cent higher than the end of 1958, but was still 10 per cent below the 1959 close.

March is traditionally a month of reaction in stocks, so the market to the above date may be said to have handled itself very well in retaining practically all of the considerable gains registered since the beginning of the year. Our best guess would be that it will continue to edge upward, with occasional natural reactions, and may very well stand above the Mar. 24 level 30 days from that date. However, the gain in the year to date has been sufficiently sharp to indicate that further rises should be moderate. A sort of see-saw sidewise movement, somewhat in crab fashion, may be the likeliest possibility for the ensuing several months.

The first stirrings of what may prove to be the end of the current recession, may have touched off the recent rather abrupt rise in the market. But this optimism could be clouded by a rapid change back to the previous record of uniformly unfavorable statistics.

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RECESSION COULD BE ABOUT TO END: The First National City Bank of New York, in its March letter on "Business and Economics" sees the beginning of the end of inventory liquidation which this organ believes has been a principal contributory factor in the recession. Moreover, while statistics going back a month or more are mostly still on the gloomy side, including a further drop in January industrial production and record unemployment for many years, a round up of more up-to-date news contains a number of favorable items.

For instance, auto sales, while still down from 1960, were up from February to March. Carloadings were down both from the previous week and last year, during the week beginning Mar. 6. But home housing starts showed a plus sign from 1960 for a recent period.

Most important of all, perhaps, was the release on Mar. 17 of news that industrial production had leveled off in February as compared with 1960, thus bringing to an end many months of continuous declining figures. Store sales also turned up for the week beginning Mar. 6, although they had been running below 1960 for some time previous, due principally to bad and cold weather.

All in all, a few rather faint first glimmerings of better things on the horizon seem to be indicated by an over-all, objective consideration of the most recent statistical releases. This situation could turn about completely in ensuing periods and resume the downward course which has been the record for some time past, but this would not be usual under the circumstances. Then, too, inventory liquidation appears to have been brought to such a point, particularly in steel, as almost to insure a pick up in this respect before very long.

The Plant Man's NOTEBOOK

By RAY BLAIN, Technical Editorial Director

AN INTERESTING article appeared recently in *The Michigan Bell* magazine on the manner in which the telephone is answered in various countries. Following is an excerpt:

"Perhaps the British have a very good system. For example, they may simply announce, 'Baker here', and the caller may reply, 'Bond here'. Each man is thus identified, and the conversation can proceed.

"The Japanese answer the telephone with a 'Moshi Moshi', which we understand, has no precise meaning, but is just a means of getting someone's attention.

"The Spanish-speaking peoples of the world have a variety of expressions that they use in telephone answering. The Roman says, 'Pronto', which in Italian, and Spanish, means 'ready'.

"In Madrid, they may answer politely with a simple 'Hola' or 'Quien Habla?' for 'Who is speaking?'

"Mexicans open the conversation with 'Bueno', which is an abbreviated form of 'Good Day'.

"In other Latin-American countries, the first words you hear may be 'A ver' for 'Let's see now' or 'Con quien?' meaning 'With whom?'

"By any reckoning, however, the most common telephone expression in the world is 'Hello'. It is estimated that more than a score of nations use some variation of 'Hello'. Many Arabian countries have given it an Arabic inflection and an Arab spelling, 'Alo'. Burma, Thailand and Pakistan use the English 'Hello'. The Turks spell it 'Allo', and prefer to add 'Efendim' (which means 'Sir') for 'At your service'.

"One may ask why is the basic 'Hello' so common? The Americans and English, who installed most of the telephone systems in countries around the world, brought the word to those areas.

"We are told that 'Hello' comes from the old German word, 'Holla', a cry for calling a dog or horse. Today, a German on the telephone says 'Hallo', or sometimes 'Werdort?' for 'Who's there?'.

"Some countries dispense with all greetings when answering the telephone. The Dutch start out by announcing their names. 'Mijnheer Weterings', a caller will say. 'Mijnheer Schoof', the other voice may reply.

"To avoid confusion, the first thing a Norwegian or a Swede does when he picks up the telephone is repeat his own number."

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In the Sept. 3, 1960 issue of TELEPHONY, we published an article titled: "Long-Span Insulated Wire Plant." This insulated-wire long-span line is designed so that when loaded with sleet, the wire sags to the ground to remove the strain from the poles, crossarms and anchors. The first field trial of this type construction was designed by REA with the assistance of Harold L. Ericson, owner and engineer of the Tyler (Minn.) Telephone Co.

Mr. Ericson now reports that on last Nov. 28, a severe sleet storm covered a rather general area of Minnesota, depositing about an inch of ice on all open wire lines throughout the area. An unusual condition also existed, in that winds of 70 miles per hour were recorded during the time of maximum ice loading. The Tyler Telephone Co. operates about 300 miles of the insulated wire long-span construction and about 100 miles of conventional-type line.

The long-span portion of the plant suffered the following damage during the storm: one pole failure, a 30-foot class 9, and two conductor pull outs, one from a dead-end fitting, and the other from a compression-sleeve splice. The pole failure occurred during the high wind condition, and it was supporting two 300 to 400-foot spans of wire at the time. These wires were not sagged to the ground.

It has not, as yet, been determined whether this pole was defective. In the long span part of the plant, all spans over 555 feet were sagged to the ground. The spans range up to 1900 feet in length. During the period that the lines were sagged to the ground under the ice loading, the plant continued to operate and provide satisfactory service to all subscribers.

The 100 miles of conventional plant in the system suffered the following damage during the same storm: 33 pole failures, 200 wire breaks, 35 wood bracket failures, 35 drop wire breaks, and over 300 poles, which are leaning to the extent that they will require straightening in the spring.

The toll leads serving this area were out of service for five days after the storm. The troubles on these lines were primarily wire breaks caused by the storm loading and high winds.

This is the third major ice loading that this insulated-wire, long-span line has experienced, with only minor troubles, during the past two years. Its performance has proved conclusively the value of this type construction to avoid major storm damage. It has also proved that by the use of insulated wire, it is possible to have a system continue to operate at full efficiency, even though it is down on the ground and frozen in ice and snow for a period of three or four months.

REA contemplates the construction of several new projects of long-span insulated wire lines this year.

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According to the Pacific Telephone Co., the world's first long distance telephone call was made by a California gold miner who called from Oneida Mine to Sutter's Creek on June 1, 1878.

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"Cross Talk"

It is said that behind every argument is somebody's ignorance.

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We are told that there would be a scarcity of news if everyone obeyed the 10 commandments.

Telephone industry must prove that nobody, especially government, can do communications job better than unhampered private enterprise

It Can Be Done in '61

By KEITH W. VOGT*

IT HAS NOW been almost nine years since I came to Minnesota to take over the executive secretary's job for this association. It was my challenge, and my responsibility, to take over where another secretary—the late and beloved Jack Crowley—had left off.

In the intervening years since then, I have always managed to make my appearances before your convention short and sweet—perhaps out of sympathy for the fact that you have to listen to me so much the rest of the year that perhaps you'd just as soon hear from somebody else at convention time.

However, in making arrangements for this convention, I was convinced that I should elaborate on my usual brief remarks and give a more extended report.

Many Problems Solved

You and I together have learned much about the telephone business over the past nine years. We have seen many dramatic things happening to our industry. We have seen many obstacles to our progress and growth develop. We have licked many of these problems and discovered that as we get over one hill, there's always another hill ahead. We know that these problems — plus many more — will be with us in the future.

But perhaps we should pause, before we look ahead, and take a quick look at where we've been in these past nine years.

In 1952 Minnesota reached a new high in telephones in service—957,000 stations. Of these Bell served a little over 700,000, and the Independent companies the balance.

The industry was pretty proud of that figure, and it certainly reflected real progress.

But don't think we stood still in Minnesota from that point on! There were still farms without telephone service. There were still demands, even in built-up areas, for additional stations that couldn't be filled because of equipment shortages inherited from World War II. These factors—plus the fact that Minnesota's population has kept steadily growing — left our industry plenty of room for expansion.

Great Expansion Accomplished

And expand we did! Today there are 1,389,937 telephones in Minnesota —and that's a gain of over 432,500 telephones in nine years!

Now that's impressive in itself. But here's another interesting statistic. In 1952 there were 114 Independent dial-operated exchanges in Minnesota. What's the situation today? Well, there are now 423 Independent dial exchanges—almost four times as many dial exchanges as there were nine years ago. And the total number of Independent dial stations in Minnesota today—210,248—is just a few thousand less than the total of *all* Independent telephones in service nine years ago!

High Dial Development

Before leaving the statistical trail, let me give you just a few more figures. Today 75.8 per cent of all our Independent stations and 80 per cent of all our Independent exchanges in Minnesota are dial. The number of common battery exchanges is 42, and this represents 8 per cent of the total Independent exchanges. The diehards —those who haven't yet caught the enthusiasm for conversion to more modern communication methods—are our 63 magneto exchanges, which represent 12 per cent of our Independent exchanges. Fortunately, however, the number of old crank-type telephones in service in Minnesota is down to 15,384, so we're making progress.

But growth in stations served and upgrading of the type of service we provide isn't the entire story of what's been happening. We have seen many other technological advances come to Minnesota—such as the first fully dial-integrated radio mobile system at Chokio, and several other similar systems now under construction. We have seen much of our outside plant go underground — safe from Minnesota weather and the shotguns of our hunters. And we have seen the seven-digit dialing system become almost commonplace in Minnesota, and originating Direct Distance Dialing a reality in 22 communities. By July 1, 1961, the number will be 29, and there will be still more Minnesota towns as associated DDD tributaries.

Rate of Return Improved

At the same time we've improved many of our other functions in running a telephone business efficiently and profitably. We've streamlined our billing systems, and improved our collection work. We've done a much better job of keeping our books and accounting practices up to standard. And many companies have launched hard-hitting sales campaigns to sell more auxiliary services, extensions, colored telephones and other items.

And in the area of providing a fair rate of return on our plant investment a better job is being done, too. I believe the general public, as well as our governmental officials, are recognizing the need for a prospering telephone company if telephone progress is to keep pace with today's needs. In 1960 alone, for instance, there were 25 rate cases before the Minnesota commission for our Independent companies, and the increased revenues which will come to these companies as

*Mr. Vogt is Executive Secretary-Treasurer of the Minnesota Telephone Association. This is his annual report presented at the association's recent convention.

a result of those proceedings is $240,000 annually. This covers 70 exchanges in Minnesota during 1960.

So we have reached 1961—the second year of the soaring sixties! Where do we go from here?

Many New Techniques

Well, we go in many directions. We keep plugging away at improved service, and extended service. We keep aiming at our goal of putting a telephone in every home, farm, lake cottage and other dwelling in Minnesota. We do these things, knowing that even the basic job of providing telephone service—the major commodity we have to sell—hasn't been completed yet.

But we don't let our horizons end with that alone. Today there is a vast new field of service opening up for us, and we're going to get our feet wet in it whether we want to or not.

Let's just take the field of business communications as one case in point. Businessmen everywhere are literally being snowed under by mountains of paperwork — forms, reports, surveys, statements, all of them containing hundreds of different types of business data. Aside from the sheer volume of paperwork, there's another challenge . . . that of speed. The great emphasis today is on speed in developing a new product, speed in getting that new product to market, speed in calling on customers faster than the other fellow, speed in cutting down on the production of one model and stepping up the production of another. To keep up with this situation, businessmen must have a wider variety of business information than they have ever had before, and they must have it faster and in more complete form.

Electronics Coming Fast

There we have one of the great opportunities for application of electronics to the telephone business . . . the communications business. And to get down to specifics, a trend that has many opportunities for the future is the use of regular telephone lines—in contrast to private-wire facilities—for the transmission of business data. For example, a branch manager could send a variety of information on his day's operations over the toll lines to a data processing center, and right away he would receive back a full report telling him what had happened. Some of the experts in the industry believe that this type of activity and service may sometime in the near future dominate our toll facilities, and that those facilities will be used more for data transmission than for conversation. More and more machines will be "talking" to each other.

The immediate reaction is to say—well, that's something for the big manufacturing centers in the east and south; we're a long way away from having much of this business in Minnesota.

Well, don't be so sure! Look at how our Minnesota electronics industry has grown, not only in the Twin Cities but in other areas such as Rochester. Look at the way business has moved out into the rural areas, where many advantages such as a more flexible labor climate, better opportunities for plant expansion, and other benefits are tremendous magnets for pulling new industry. Mark my words, as industry moves into Minnesota the need and demand for additional communications services and facilities will surely follow!

"Memory" Equipment

There is another major trend which injects an entirely new dimension to the field. That trend is "memory"—the ability of your exchange equipment to accept and store information for various lengths of time for various reasons. You and I can think of any number of applications of memory equipment, such as storing the numbers that are called most often so that the subscriber can put any of them through almost instantaneously, or using a memory device to hold the calling number, the number called, record the length of the call, and calculate the charges.

Another field that seems to have an extremely large potential is "slow-scan video"—the use of telephone facilities within a given community to transmit and receive images. Central banks and their branches in various parts of the country already are using this technique to verify signatures, and some companies are using it to transmit maps, technical drawings and so on. The big advantage is that the sender and the receiver both have copies and can talk about it. These are only the very earliest beginnings, of course, because the use of telephone facilities for image transmission has an unlimited potential.

Can't Fight Progress

Summing up some of these examples of new techniques and new services that confront our industry, let's just say that telephone companies, both today and in the future, are truly becoming communications companies. Our entire sphere of activity has broadened not only to the point that our facilities will be used more and more for other-than-voice communications, but we should also be thinking in terms of entirely new concepts of communications. In our business, everything is getting faster and equipment is getting smaller.

You can't fight progress, and progress is here to stay. At the same time, these faster and more versatile techniques must be convenient and reasonably easy to use, and they must be dependable and reasonable in cost. That's quite an order, but it's an order that our industry must deliver. And I feel compelled to emphasize that we must be ready and willing to serve our area with whatever services our patrons demand.

Return to Americanism

Now there are two other factors that go hand in hand with this matter of technological progress. The No. 1 factor, of course, is that our industry must have adequate earnings, which will permit the individual telephone company to provide better service and, in the long run, service at a lower price than would otherwise be possible.

Side by side with this need for adequate earnings—which are necessary if

Ten Steps to a "Sure-Fire" Plant Sale

By Ben Smith*

(1) Understand the order. Discuss it with your supervisor, if necessary.

(2) Park your truck in front of the customer's house, not in the driveway, so the customer can see the company name.

(3) Find out the customer's name. This can usually be obtained from the service order. Customers like to hear their name.

(4) Ring the customer's doorbell (or knock firmly), but not with a screw driver.

(5) Step back three steps, don't "crowd" the door.

(6) Introduce yourself by name, not just "I'm the telephone man."

(7) Ask questions about how the customer will use the telephone.

(8) Let the customer see and handle the new telephones. Show her the "spring" cord, how light it is, etc.

(9) Make suggestions based on information obtained, answer customer's questions, and overcome objections.

(10) Obtain a "yes" reply and follow through with a neat installation, cleaning up the mess when through.

*Mr. Smith is general merchandising manager for Southwestern Bell Telephone Co.

we are to continue attracting the necessary outside capital for financing these programs of progress—is another need, the vital Number 2 factor.

This is the crying necessity for a return to good old-fashioned Americanism in the United States.

There must be an atmosphere in which our telephone industry, and free enterprise generally, can prosper and grow. There must be incentive for individual enterprise, for get-up-and-go. There must be an end to the idea that the government is everything to all people at all times.

On Socialistic Road

The honest fact is, we are well on the road to socialism; and socialism is something that you and I neither want nor need.

Don't take my word for it. Take the word of Norman Thomas, six-time candidate for president on the Socialist Party ticket, who said:

"The American people will never knowingly vote for socialism, but under the guise of liberalism, they will adopt TVA, social security, federal aid to education, public housing and compulsory health insurance. They will adopt every fragment of the socialist platform until one day America will be socialist without knowing how it came about!"

Mr. Khrushchev echoed the same sentiments last year when in answer to a reporter's question about the length of the cold war, he said: and again I quote:

"In 15 years there won't be a cold war. Your country is becoming so socialistic that in 15 years the causes for conflict between our two countries will have disappeared."

What must we do about it?

End Deficit Spending

We must end deficit spending and reduce the fodder upon which government has fed and grown beyond the consent of the governed.

We must have sound and comprehensive tax reform.

We must fight increased government spending under the guise of crisis and emergency. Since 1954 defense spending has decreased more than a billion dollars, while non-defense government expenditures have increased more than 10 billion dollars.

And last but not least, we should get back to "do-it-yourself" as the philosophy of the American way of life. When workers refuse to cross the picket line even though their jobs are waiting—as in the recent Northwest Airlines strike—is it fair that the state, through its unemployment compensation program, should be asked to put these people on the rolls?

Tax Menace Dangerous

But the taxation menace is the most dangerous one. We have seen our income tax laws, in our lifetime, go from 31 words to more than 440,000 words. These laws have become a gigantic hodgepodge of contradictions so complex that even the ordinary man in the street must get legal advice to help him compute his tax. In the higher brackets, it represents a discrimination against individual effort and ability such as has never existed for any long period of time in any large-scale civilized community.

This entire theory of progressive taxation was spawned by Karl Marx more than 100 years ago. He gave it as the necessary basis for a socialist state. He said that the way to impose statism on a people and socialism on a country, was to tax the middle class out of existence. And how well that is being done today! Let me call to your attention that the steepest increase of surtax rates occurs through the middle income brackets where are to be found the bulk of our small businessmen, our professional men, our key executives, skilled workers, and many of our farmers.

Yes, the weapon of the revolution and its means of self-perpetuation has been the tax machine. It ranges from so-called regulatory taxes which cost more to collect than they produce in revenue, to the countless direct and indirect taxes which make up one-fourth the cost of an automobile, one-third of our telephone bill, and 27 per cent of the gas and oil we use. History reveals that when a nation's tax burden was 10 or 20 per cent of the national income, there was little grumbling or attempt at evasion, *but no nation in history has ever survived a tax burden of one-third of its national income.*

In Trouble Now

Today, 31 cents of every dollar earned by Americans goes to the tax collector, and two-thirds of that bite goes to the federal government. Economists have told us that if our tax burden exceeds 25 per cent of the national income our free economy is in trouble. And you can plainly see we're in that trouble right now.

Yes, we are close to the point of no return; close to the goal of socialism where we find ourselves so deeply committed to socialistic practices that we dare not face the upheaval of reversing our course; close to the point where we unhappily and resignedly slide all the way into socialism rather than brave the storm.

So that's the choice that you and I, and the rest of America, face. Do we just resign and slide, or do we come out fighting?

I believe we should come out fighting—all the way.

Must Reverse Trend

I believe each of us should return home with a solemn pledge that we'll do everything possible to reverse the trend to socialism. If this involves becoming active in community groups where we can spread the gospel and get the other people in our town equally excited, we should do just that. And if it involves our writing to Congress and lining up another 100 people apiece to do the same thing, we should do just that. Don't forget that 40,000 letters—less than 100 to each congressman—are considered, in Washington, evidence of a trend. We should be able to produce that many letters out of our communities alone with no difficulty.

And, certainly, if the call comes for your support when our telephone industry is threatened by governmental encroachment, or by more taxes on our service, you should respond immediately and enthusiastically.

Must Operate Efficiently

Finally, I believe that we must make each of our own individual companies a living, vivid model of typical free American enterprise at its very best—efficiently run, and with arms wide open, ready to welcome technological advances and progress that are surely in our industry's future. Let us prove, individually and collectively, that nobody—including and especially government—can do the communications job better than an unhampered, progressive private enterprise!

Don't say it can't be done. *It can be done . . . in 1961,* if you and I put our minds to it and get about the job. Yes, I repeat, *it can be done.*

Let me pinpoint:

This year—in 1961—you can improve your local public relations, take care of any service complaints, start to improve your facilities, start to convert to dial, start new financing arrangements, improve your service, raise your rates if needed, *and get on the ball in general.*

Remember, you operate a public utility, under a state franchise. You have an exclusive area to adequately serve under the concept of Minnesota law. *Your telephone service in your area should be the very best you know how to make it.* You should fully serve and provide the equipment and services your patrons desire. You should not be in the telephone business 40 per cent, 55 per cent, or 80 per cent of the time, but a genuine 100 per cent.

(Continued on page 54)

Minnesota convention told that if business is to grow and prosper and to adequately serve the nation it must have a

True Free Enterprise Climate

By R. C. RENO

TODAY'S GREATEST need of American business—particularly the utilities industry—is a return to a climate of true free enterprise and individual initiative, instead of an atmosphere of increasing federal centralized government controls, interference and burdensome taxation, delegates to the recent annual convention of the Minnesota Telephone Association were told. The convention was held February 19-22 in Minneapolis.

Such a climate is necessary if business and industry are to grow and prosper and adequately serve the American people in future years, two convention speakers declared. They were Keith W. Vogt, executive secretary of the Minnesota association, and Fred A. Miller, regional manager of the National Association of Manufacturers of the United States of America.

"In our business, everything is getting faster and equipment is getting smaller. At the same time these faster and more versatile techniques must be convenient and reasonably easy to use, and they must be dependable and reasonable in cost," Mr. Vogt said.

Two factors that will assure the industry's progress, he said, are adequate earnings necessary to continue attracting outside capital required to finance these programs and the "return to good old-fashioned Americanism in the United States."

"There must be an atmosphere in which our telephone industry, and free enterprise generally, can prosper and grow," Mr. Vogt said. "There must be incentive for individual enterprise, for more get-up-and-go, and there must be an end to the idea that government is everything to all people at all times."

He called upon the convention delegates, who represented 208 Independent telephone companies in Minnesota, and Independents in five surrounding states, "to make each of your own individual companies a living, vivid model of typical free American enterprise at its very best.

"Let us prove, individually and collectively, that nobody—including and especially government—can do the communications job better than an unhampered, progressive private enterprise."

Reporting on the progress made by Bell and Independent telephone companies in Minnesota, Mr. Vogt said approximately 79,000 new telephones were put into service in Minnesota during 1960 by Northwestern Bell Telephone Co. and 208 Independent telephone companies, bringing the total telephones in service to 1,389,937.

"In the decade from 1950 to 1960, Minnesota's population increased 14.5 per cent, while the number of telephones in service increased 52.8 per cent," Mr. Vogt reported.

"Not only was there an impressive growth in telephones in service, but in 1960 two additional Bell exchanges and 23 Independent exchanges converted to dial operation. This brings the total Independent exchanges having dial service to 423 out of 528 Independent exchanges in Minnesota."

Breaking the Independent figures

Officers and directors of Minnesota Telephone Association. Standing, left to right: Herb Lien of Blackduck; John Mulhearn of Minneapolis; Vies Martinsen of Grand Meadow; John Holland of New Ulm; Charles Cashel of Worthington; Kenneth Peterson of Kerkhoven; P. M. Ferguson Jr. of Mankato, vice president; Waldon E. Piehn of Harmony; Robert Bunke of Houston; H. James Boyd of Alexandria; A. E. Lindekugel of Fairmont; Eldon Eckles of Blue Earth; Harold Ericson of Hector, and Harold Bollinger of Waconia. Seated are Kenneth Ellefson of Ada, president, and Keith W. Vogt of St. Paul, executive secretary-treasurer.

down, Mr. Vogt said 80 per cent of all Independent exchanges are dial, 8 per cent are common battery, and 12 per cent are magneto exchanges. The number of magneto telephones in operation is now at its lowest point—with only 15,384 left in the entire state. (See full text of Mr. Vogt's address on other pages in this issue.)

Mr. Miller said Americans "must get back to the fundamental principle that 'it is the function of all the people to support the government and not the function of the government to support all the people.' "

"We are a generous people. We have never failed to lend a helping hand to those in need. Certainly our own needy citizens deserve our support—until they can once again become self-supporting," Mr. Miller said.

"But there is a fundamental truth in the statement 'before you are generous, be just.' There is no justice in taxing the man who works hard to improve his status so that a beneficent government can be generous to those who have been taught that it is good to collect compensation for doing nothing."

"Many people talk disparagingly of our own economic growth in contrast to that of Russia," he continued. "If the Russians are making desirable progress, it could well be because they have long since stopped support of the non-producer at the expense of the producers. The proven non-producers are in Siberia and the producers receive the rewards."

Mr. Miller reminded his listeners of what he termed "two important points to remember."

"The first is that the government officials are our representatives. Our votes put them in office, and they are responsible to us, not us to them. The second point is that it is our money they are spending; as citizens we all too frequently give our representatives a free hand, with no instructions from us in spending millions at the local and state levels and billions at the national level. The challenges from abroad are too critical for us to waste a single dollar of our money, or a single hour of our energy, on anything that accomplishes less than the very best."

The convention was presided over by President K. P. Ellefson, general manager of the Norman County Telephone Co. of Ada, Minn.

Mr. Ellefson said "every day it becomes increasingly difficult to maintain real small telephone company operation."

"Over the past 10 years we have seen a trend towards mergers of small companies to meet such economic pressures as increased costs, higher wages, inflation and increases in taxes," Mr. Ellefson said. "Undoubtedly as time goes on, more and more small companies will merge into larger units to attract finances so they can afford technological improvements and management know-how."

Some of the 70 Minnesota telephone company managers who boarded a bus at Minneapolis' Hotel Radisson for a trip to the State Capitol in St. Paul, where they appeared at a house tax committee meeting of the Minnesota legislature to protest a proposed 4 per cent excise tax on telephone service in Minnesota. The hearing was held during the Minnesota convention.

Pioneers Form Chapter For Three States

The North Star Chapter of the Independent Telephone Pioneer Association (ITPA), with 120 charter members in Minnesota, North Dakota and South Dakota, was organized during the convention of the Minnesota Telephone Association.

Mrs. Mayme Workman, executive secretary and treasurer of ITPA, presented the charter to the chapter and welcomed it into the national association.

The North Star Pioneers elected the following as directors of the chapter: Mrs. Bernice Arvig of Twin Valley, Minn.; J. F. Eitzen of Mountain Lake, Minn.; John Hinrichsen of Waconia, Minn.; J. G. Holland of New Ulm, Minn.; A. E. Lindekugel of Fairmont, Minn., and E. I. Miller of Cannon Falls, Minn.

The following chapter officers were elected: President, A. G. Krueger of Minneapolis, who was largely responsible for the organization of the North Star Chapter; vice president, Gordon Brown of Enderlin, N. D., and secretary-treasurer, Miss Frances Schneider of Blue Earth, Minn.

Two factors which would hasten the trend, he said, are an increase in the federal minimum wage law from $1.00 "to somewhere up to $1.25 per hour," plus "modification or complete abandonment" of the present provision in the law exempting operators in telephone exchanges with less than 750 telephones.

"Some small magneto exchanges would not produce enough in gross revenues to hire an operator 24 hours a day at $1.25 an hour," Mr. Ellefson said.

"This situation, in addition to increased costs, demands for increases in service and higher over-all per station investments can lead to only one thing —adjustment in telephone rates. It is impossible for companies to continue to absorb increased costs, higher wages, inflation and increases in taxes because most of our companies are just barely getting by now."

Despite these problems, Mr. Ellefson said the industry had made great progress in the past year, both in expansion and development of new services.

He cited Wide Area Telephone Service (WATS) and such other developments as data transmission, dial-integrated radio telephone, Direct Distance Dialing, and All Number Calling.

"Our industry is finding out that every day know-how becomes more and more important, and that we are having to learn new techniques and new methods. All companies must be flexible so we can adjust to these new methods," Mr. Ellefson said.

Frank Renshaw of Washington, D. C., north central telephone area director of the Rural Electrification Administration, addressed the convention on the subject of full area coverage in connection with REA financing.

He explained REA's basic policy in connection with area-wide coverage, as provided in Section 201 of the REA act, which states that:

"The Administrator in making . . . loans shall, insofar as possible, obtain assurances that the telephone service to be furnished or improved . . . will be made available to the widest practical number of rural users."

Also, he quoted the statement in the enabling clause of the telephone amendment to the REA act which reads:

". . . it is hereby declared to be the policy of the Congress that adequate telephone service be made generally available in rural areas through the improvement and expansion of existing telephone facilities and the construction and operation of such additional facilities as are required to assure the availability of adequate telephone service to the *widest practicable number of rural users* of such service."

"The key word here is 'practicable'. We have gone to considerable trouble in the early years of the REA telephone loan program to explain to applicants for REA loans that we have no intention of inducing system extensions which would bleed the company into deficit operations," Mr. Renshaw said. He concluded:

"We think that full area coverage is in your interest as well as the interest of potential subscribers. We would like to see the word 'practicable' treated with a full measure of that sort of daring and enterprise which built the telephone industry in the first place.

The charter for the newly-formed North Star Chapter of Independent Telephone Pioneer Association is presented by Mrs. Mayme Workman of Springfield, Ill., ITPA executive secretary, to Arthur Krueger, Minneapolis. Mr. Krueger was prime organizer for the new chapter and was its elected first president.

"It is obvious that company profits cannot be figured on the basis of service to a single subscriber. Fundamental to the usefulness of the telephone is the concept of an unlimited network of communication. The more subscribers, the higher the value of the service to each one."

Clifford C. Pearce of Riceville, Ia., president of the United States Independent Telephone Association, urged all Independent telephone companies to become members of the national association and take an active part in its affairs. He said that with all of the dynamic growth and the future changes in the telephone art the USITA is truly "the vanguard of the 60's" for the Independent telephone industry.

Speaking of the achievements of the 50's compared to some of the things the industry will need to achieve in the 60's, Mr. Pearce said:

"Those of you who have been in the telephone business longer than I know that we have made more progress in the telephone business during the last 15 years than we made in the previous 50. During the last world war and prior thereto, we were largely engaged in transmitting the human voice over wires. Now we have become a communications industry.

"During the past 10 years we have seen many things come to pass—Direct Distance Dialing, All Number Calling, CAMA, mark sensing, touch tone calling, Dataphone, call director, compact telephones, transistor, microwave, wave-guide, over-the-horizon transmission, solar battery, and printed circuits. Many of these words and phrases, most of which we had never heard before, have become common-place."

Commenting upon the introduction and development of space communications, Mr. Pearce said he realized that the small telephone companies are not going into the satellite business for a long time to come. However, he warned that they had better start giving consideration to the effects satellite communications and other rapidly occurring inventions are going to have on their future operations. Above all, he said, the small companies had better start thinking seriously about what they are going to do to provide adequate circuits and facilities to accommodate the numerous types of communications which they will be called upon to provide. He said further:

"Although it is plain that we face some terrifying challenges during the next 10 years, we cannot help but be optimistic about the future of the telephone industry. The challenges will bring with them many openings for jobs, many opportunities for investment and for profit. And there will be opportunities for service such as we have never known before. Most students of our business believe that the brightest era and our largest opportunities lie ahead. There seems to be no letup in demand for telephone service. The demand for communications service is just beginning."

Every member of a business organization—not just salesmen—must bear the responsibility for increased sales and profits and "it is only through profits that we in business can be paid,

(Continued on page 58)

Officers and directors of the newly-formed North Star Chapter of the Independent Telephone Pioneer Association. Standing, from left, are Gordon Brown of Enderlin, N. D.; Arthur Krueger of Minneapolis; J. C. Eitzen of Mountain Lake, Minn.; John Hinrichsen of Waconia, Minn.; A. E. Lindekugel of Fairmont, Minn., and John Holland of New Ulm, Minn. Seated are Frances Schneider of Blue Earth, Minn., and Mrs. Bernice Arvig of Twin Valley, Minn. Mr. Krueger was named chapter president; Mr. Brown, vice president, and Miss Schneider, secretary.

Different people want different phones

PAYSTATION
Sheet steel housing takes the roughest treatment. Close-fitting coin box door can't be pried open, foils burglars. Magnetic slug ejector for 25¢ channel. Choice of 10 colors.

AE makes a phone for every customer need

TYPE 85-C DESK PHONE
For two-line pick-up, signaling and extension exclusion. Ideal for nurse, receptionist, secretary. Simple turn button switches from one line to another. Choice of 10 colors.

Each person in your area has specific telephone needs. The service-station operator must provide motorists with the convenience of a pay-station. In a laboratory, the nurse needs a two-line desk phone. You can sell both...

To meet the needs of different customers, you must provide many types of phones—standard *and* special. Why? Because it's profitable! The customer who wants a special phone pays extra for the extra service.

Any new customers in your area? Any old ones with new telephone needs? If so, show them the AE phone best suited to their particular needs. Contact your AE representative. He'll be glad to give you full details on our complete line of telephone services and related instruments. Only AE offers 15 different phones to meet different customer needs.

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GENERAL SYSTEM

Courts and Commissions

Authorize Rate Increase For Minnesota Independent

The Minnesota Railroad & Warehouse Commission on Mar. 20 authorized the Laporte Telephone Co. to change its rate schedule to effect net operating revenues amounting to $7,240.

The Laporte company operates a magneto exchange serving approximately 101 company-owned stations and 70 switchers.

The company stated that due to increased plant investment, return since 1955, the date of the last rate adjustment, had been inadequate, and it was operating at a loss.

The commission approved an increase of $1,824 above current net operating revenues of $5,416. With net income of $594, and a current value rate base of $14,220, the Laporte company will have a 4.17 per cent rate of return.

Challenge Constitutionality Of N.Y. Wiretapping Laws

A complaint was filed on Mar. 10 in Federal Court in Buffalo, N. Y., challenging the legality of parts of the New York Constitution and Code of Criminal Procedure which permit wiretapping.

This action was instituted to block wiretap evidence expected to be introduced against 15 gambling suspects facing trial in Erie County (N. Y.) Court.

The complaint, filed against the state district attorney, superintendent of police, attorney general and crime commission, contends that these authorities obtained a state court order permitting use of wiretaps on telephones of the suspects between January and October of 1959.

It goes on to say that while wiretaps are permitted under Article I of the New York Constitution and under Title II-A of the New York Code of Criminal Procedure, they are prohibited under the fifth and 14th amendments to the United States Constitution and by the Federal Communications Act of 1934.

Because of this discrepancy, the filing asks that the Federal Court determine which law has primacy. The suspects contend that federal laws supersede state regulations, therefore making use of wiretap evidence against them illegal.

Therefore, the complaint says, an indictment returned in April 1960 by the Erie County grand jury was based on illegal wiretap information presented to the grand jury.

The Mar. 10 filing asks that a temporary injunction be issued preventing further prosecution of the gambling case until the Federal Court hearing can determine the issues raised.

A temporary stay against introduction of wiretap evidence in the gambling case had been issued earlier, pending the outcome of a U.S. Supreme Court case on the same question. The Supreme Court ruled that although wiretapping is illegal under federal law, wiretaps still may be introduced in some state courts.

LT&T Gets Approval of Hotel, Electrowriter Rates in Neb.

The Lincoln Telephone & Telegraph Co. on Mar. 15 was authorized by the Nebraska Railway Commission to offer a new type of written communication (Electrowriter), a new type of hotel PBX service and a new type of lamp and key system.

The commission's order states that special equipment may be provided to permit communication by written messages over telephone circuits. The Electrowriter instruments, providing for written communication, may be furnished either with or without associated telephone instruments.

If associated with telephone instruments, written or voice messages may be transmitted alternately.

Rates and charges approved for this type of equipment are:

	Monthly rate	Installation, move, or change of equipment charge
Transmitter (with or without lockout feature)	$31.00	$10.00
Receiver	23.00	10.00
Push button selector switching equipment, illuminated, one to 10 selector buttons	4.00	(1)
Buttons, each	.50	
Paper winder	2.00	(1)
Alerting devices		
Pedestal lamp, manual turn-off	1.50	(1)
Wall mounted lamp, manual turn-off	1.50	(1)
Buzzer with manual turn-off	1.50	(1)
When furnished with associated telephones, the hold and transfer capacity per each telephone instrument	1.00	(2)

Notes: (1) No installation charge applies when furnished with original installation. Charge applies for subsequent installations, moves, or changes per each unit of equipment.
(2) The regular installation, move, or change charge applicable to main, PBX, or extension stations, will apply.

At the option of the customer, the company will supply either plain paper or especially designed printed forms. The charges for such paper or forms will be based on the costs involved.

•

New features included in the hotel PBX service, which was authorized, include message register service, message waiting service, toll diverting service, room-to-room dialing, and direct access to long distance service from hotel guest rooms, which eliminates handling of long distance calls by the hotel operator.

Rates for commercial PBX service shall apply to service furnished to hotels, except that the following shall apply to special items of service:

Message Register Service	Monthly rate	Installation charge	Termination charge (1)
Common Equipment (Includes register cabinet, registers and circuits as required) Each unit of 100 registers	—	—	$1,800.00
Message registers	$1.00 (3)	$2.00 (2)	—

(1) Termination charge reduced by 1/60 for each month in service.
(2) Minimum installation charge per order —$5.00.
(3) Minimum monthly charge is for 75 registers.

Message waiting service			
Common equipment (Including cabinet and circuits as required. 100-station capacity)	$20.00	$25.00	$1,000.00
Each 100-station addition	20.00	25.00	1,000.00
Stations (In addition to regular monthly rate	.25	(2)	—

(1) Termination charge reduced by 1/60 for each month in service.
(2) The regular applicable installation, move or change charge will apply.

Restricting and diverting equipment for long distance service

When special toll trunks are provided on a hotel branch exchange, permitting direct

ANOTHER FIRST FROM HOLAN...

So New We Haven't Dressed it Yet

It's ready now — the first center-mounted derrick for the utility field that can be operated from a rotating crow's-nest. All that's left to be done is to sheathe in a famous Holan-built body.

But it has already been subjected to hour after hour of torturous digging and lifting in every position. And it can take it . . . take even the punishment of harnessing the 8,400 pounds of torque of the Holan 5400 Earth Borer.

The center-mounted 7700 erases the blind spots, permits the operator to dig and "live boom" 9,000 pounds . . . rotate 360° in either direction . . . extend and retract the 7-foot boom . . . set 80-foot poles. And he does it all with foot and hand controls . . . and with a safe, unobstructed view of his work area.

The derrick — including the base, superstructure and hydraulic outriggers — is built as an integral unit and can be easily mounted on the chassis at any point behind the cab.

Make it a promise to see this powerful and remarkably versatile derrick with its full range of optional equipment before you buy any center-mounted derrick. Call your Holan Field Representative . . . or write us today . . . for complete information.

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access to long distance facilities from guest-rooms, this equipment is provided to restrict long distance calls from the local exchange trunks and divert them to the hotel branch exchange operator.

	Monthly rate	Installation charge
Per exchange trunk to hotel branch exchange..	$7.00	(1)

(1) No charge if provided with initial installation. Subsequent installations will depend on possibility of equipment modifications and charges will be based on cost of installation.

•

The new type of lamp and key equipment, offering of which was approved, provides greater operating capacity and several more features than present systems. Rates and charges for the new 10-A-1 equipment are as follows:

	Monthly rate	Installation charge
System No. 2 (10-A-1) Relay equipment for 2 trunks	$15.00	$10.00
Subset key illumination and two intercommunicating (1) links, with privacy feature		
Each additional trunk	1.00	5.00
Dial selective intercommunication feature 20 stations	5.00	—
Station equipment Call commander console	7.50 (2)	30.00 (4)
Each additional call commander console	6.00 (2)	30.00
Key type telephones (A. E. Type 86)...	1.85 (3)	5.00 (4)
Each working key on call commander or key type telephone instrument	.40	—
Preset conference lines (6-station capacity) Each	1.00	5.00
Add-on conference arrangement	1.00	5.00

Notes: (1) Additional common talk (without privacy feature) intercommunication circuits may be provided through subset or call commander key arrangements. In addition to the applicable 40 cent charge per key, the charge for each circuit is $1.00 monthly, with a $5.00 installation charge.
(2) In addition to applicable key system station or PBX system station rate.
(3) If the 10-A-1 key station is used in connection with a PABX System, the PABX station rate shall be applicable.
(4) The charge for a move of this muiti-key type station equipment shall be the same as the new installation charge.

Sale of Mo. Mutual Is Complete; Cut-Over Planned

Completion of the sale of the Stockton (Mo.) Mutual Telephone Co. to the Bolivar (Mo.) Telephone Co. was accomplished on Feb. 28, it is reported. The Stockton Mutual asked the Missouri Public Service Commission to approve the sale last summer (TELEPHONY, July 30, 1960).

The Bolivar company is headed by Joe Roberts of Gallatin. Plans for cut-over to dial are to be a reality "within a year," it is reported.

General of SW La. Request

The General Telephone Co. of the Southwest, San Angelo, Tex., has asked the Louisiana Public Service Commission, it was reported on Mar. 13, for a rate increase. The company operates Louisiana exchanges at Belcher, Dixie City, Gilliam, Hosston, Ida, Mira, Trees, Vivian, Cullen, Sarepta, Shongaloo, and Springhill.

N. C. Bill Would Prohibit Credit Card Fraud on Tolls

A bill which would prohibit fraudulent use of credit cards or schemes to attempt to cheat telephone companies out of long distance tolls through use of such devices as pre-arranged codes, through the caller and the person being called, was introduced in the North Carolina Legislature on Mar. 20.

Offered by Rep. Eugene Brooks of Durham, Irvin Belk of Mecklenburg, and Ike F. Andrews of Chatham, it would make such offenses misdemeanors, punishable in the discretion of the court —by up to two years in prison. The bill was referred to the N. C. House judiciary committee for study.

Approve Dial Rates; OK Dissolution in Minnesota

The Western Telephone Co., Springfield, on Mar. 13 was granted a rate increase by the Minnesota Railroad & Warehouse Commission, to be effective on cut-over of the Springfield exchange.

The company has rehabilitated this exchange with the aid of a $250,000 loan from a private lending agency, with conversion scheduled for June 18. The Springfield exchange serves 1,088 local and 449 rural stations.

Under the new rates, the company will have a net income of $25,752, giving it a 6.09 per cent return on a rate base (adjusted for current value) of $422,668. Under old rates, the company has a $17,017 net income, which gives it a rate of return of 4.02 per cent.

Present manual and approved dial rates are as follows:

	Present	*Approved*
One-party business	$7.00	$8.50
Two-party business	6.25	7.75
Multi-party rural business	4.75	5.75
One-party residence	3.60	4.50
Two-party residence	3.10	3.85
Four-party residence	2.60	3.25
Multi-party rural residence	3.60	4.50

•

Also in Minnesota, the commission on Mar. 20 gave permission to the Corning Farmers Telephone Co. to discontinue doing business. The Corning company serves 90 subscribers through a magneto exchange in Lansing.

The company was given permission to discontinue service when all its subscribers have been provided with service from either the Austin exchange of the Northwestern Bell Telephone Co., or the Blooming Prairie exchange of the Minnesota Telephone Co., Minneapolis, whichever they prefer.

NW Bell Gets Neb. Rate OK Mobile Service, Equipment

The Northwestern Bell Telephone Co. on Mar. 15 was given authority by the Nebraska Railway Commission to offer mobile telephone service at its McCook exchange. Rates and charges will be the same as those charged at Omaha and other exchanges where the company provides this service.

Also, on Mar. 15, the company was given permission to make new service offerings for two types of order table equipment, the No. 4 order turret and the automatic call distributor. The offering on No. 1 order turrets was cancelled, as this equipment is obsolete and no longer manufactured.

The No. 4 order turret is a one-position, non-multiple type equipment for use in connection with private branch exchange service which has a cord-type attendant's switchboard.

It provides for terminating and holding of:

(a) One both-way line connecting the turret to the associated cord switchboard.
(b) A supplementary line for outward service to the central office or to the associated cord switchboard.
(c) One overflow line from the associated cord switchboard. The turret may be busied-out by operation of a key. Two lamp signals are provided to indicate when the turret is busied-out and when a call is waiting on the overflow line.

The following rates and charges were approved:

	Installation Charge	Monthly Rate
No. 4 Order Turret, per position, equipped for one private-branch exchange line, one supplementary outward line, one overflow private branch exchange line, with line lamp, position busy-out with busy lamp, and including one attendant's telephone and dial where required....	$25.00	$6.25
A termination charge in the amount of $75.00 per position will apply. Such charge will be reduced by 1/60 for each month that the position remains in service.		
Incoming, supplementary outward and overflow lines between the order turret and private branch exchange cord switchboard..	Private branch exchange station rate (dial or manual)	
Supplemental outward central office line.....	One-party business rate	
Availability lamps at associated private branch exchange cord switchboard..	—	—
First appearance; additional appearances; each strip of 10 lamps.....	—	$1.00

The Automatic Call Distributing System Model 40 permits the automatic distribution of incoming calls to attendant answering positions in approximately the sequence of their arrival and with an approximate equalization of traffic to the attendants' positions.

Central office lines, private branch exchange station lines, or private lines

may be terminated in the Automatic Call Distributor for distribution to attendants' positions. The maximum capacity of this system is 36 incoming lines and 40 attendant positions.

The following rates and charges were approved:

Common equipment, including associated traffic register equipment and one supervisory cabinet for:

	Installation	Monthly	Termination*
16 lines, 20 positions..	$250.00	$175.00	$1,500.00
27 lines, 30 positions..	300.00†	200.00	1,750.00
36 lines, 40 positions..	350.00†	225.00	2,000.00
Attendant's position, each, including a 6-button key, operator's headset, headset jack and a separately mounted dial, if required	10.00	6.00	75.00

Lines:

Between common equipment and central office.....PBX trunk rate

Between attendant's position and central office.....Ind. line bus. rate

Between the system (common equipment or attendant's position) and an associated private branch exchange switchboard.....PBX station rate

*To be reduced by 1/60 for each month that the system remains in service.

†A $100 installation charge will apply for changes from smaller to larger capacity common equipment, in lieu of the installation charges shown above.

Rate Case Rehearing Sought By General of Ohio

The General Telephone Co. of Ohio, Marion, on Mar. 15 petitioned the Ohio Public Utilities Commission for a rehearing of the PUC's decision granting the company a $1,626,496 rate increase (TELEPHONY, Feb. 18).

The General company had asked for an increase of $2,941,651 in its original filing in December, 1958. The rates granted on Feb. 9, 1961 will leave the company $760,736 after taxes.

In its current petition, the company lists seven errors it claims the commission made in refusing to allow the total amount requested. It contends that the PUC failed to properly determine and find a fair annual rate of return.

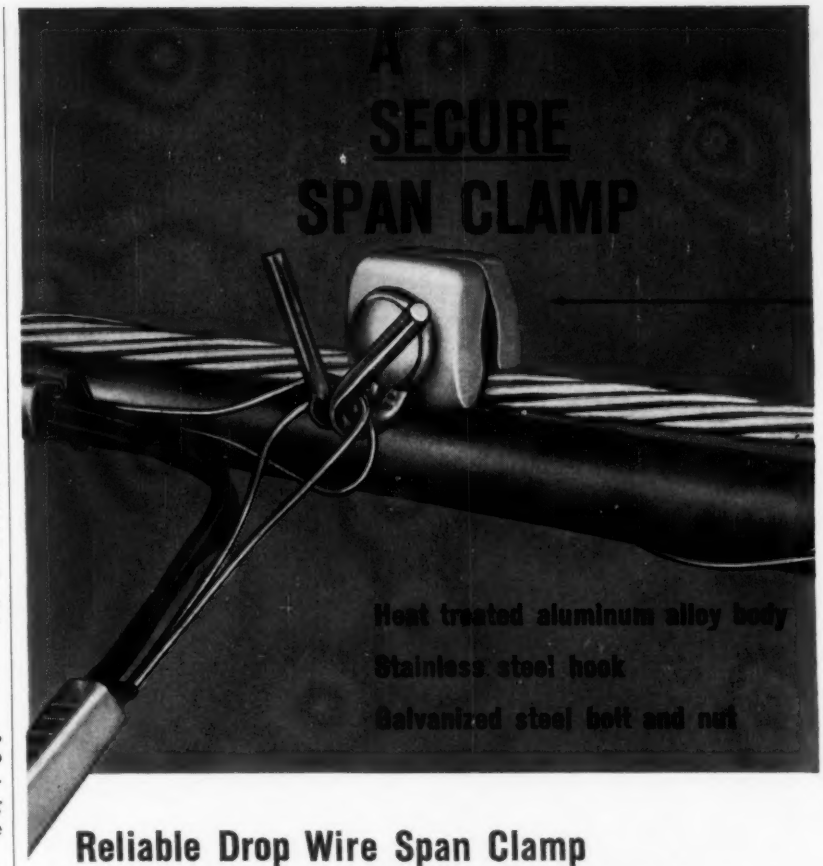
Company officials said that if a rehearing is not granted, an appeal will be made to the Ohio Supreme Court.

N. H. Attorney General Asks Interim Rates for NET&T

A reduction in New England Telephone & Telegraph Co. rates in the state of New Hampshire, pending the outcome of an investigation by the New Hampshire Public Utilities Commission, has been asked by New Hampshire Attorney General Gardner C. Turner, it was reported on Mar. 27.

The attorney general did not specify the amount of the reduction request, but said it would be "substantial," and could be as large a reduction as $800,000 annually. Turner also asked that the commission establish temporary rates to apply during the investigation.

The New Hampshire commission had asked last fall that the company pre-



Reliable Drop Wire Span Clamp for 1/4" to 7/16" strand

Accommodates 1 to 3 mid-span drops under full tension (plus wind & ice loading). The stainless steel "Y" shaped hook will take several drop wire clamps. Take-offs can be made at any angle. The square shank bolt, with nut, tightens securely with a wrench.

Send for your sample now.

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pare plans to reduce intrastate toll rates to compensate for excess earnings the company is said to have realized under existing rates. The commission suggested specifically that the company reduce its intrastate toll rates to the "same level as interstate toll rates for comparable distances" (TELEPHONY, Oct. 22, 1960).

The attorney general's rate reduction request followed by a day the announcement that the commission was beginning an investigation of NET&T earnings in New Hampshire to determine if they were excessive. The date for a hearing on the request for temporary rates has been set as Apr. 12, when the company will also be asked to show why its rates should not be reduced.

The attorney general said he wanted the commission to suspend the present rates and set temporary rates which are "substantially" lower because telephone users have no way of recovering excessive payments they might make during the investigation.

On the other hand, he added, temporary rates also protect the company because it can recover the difference if the permanent rates finally established are higher than the temporary rates.

The attorney general also said that during the 12-month period ended last Dec. 31, the company got a 7 per cent rate of return on its New Hampshire investment. Since 1957, the commission has considered 6.2 per cent a reasonable rate of return.

Turner said each 0.1 per cent return is equal to $100,000 in gross revenue. Thus, to reduce a 7 per cent return to 6.2 per cent, would require an $800,000 reduction in rates.

The case has been developing since last October, when the commission first asked the company to prepare plans to reduce rates.

Letters were sent by the commission to NET&T at the end of both 1958 and 1959 declaring that the company's net earnings were in excess of the 6.2 per cent rate of return set by the commission, and directing that earnings in excess of this rate should be set aside in a special reserve account for the "benefit of telephone ratepayers in a manner to be later determined" and not transferred into the company's surplus account.

New England Telephone claims that existing rates are not too high and that the "best interests" of both the consumer and the company would be served by their continuation.

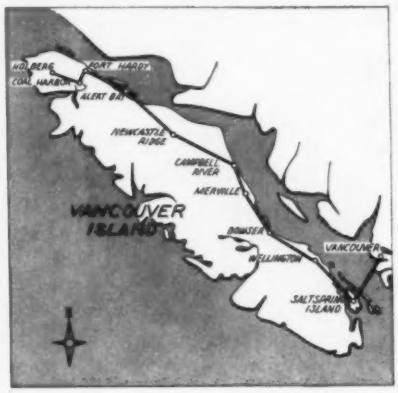
OK Stock Issue in Wis.

The Wisconsin Public Service Commission on Mar. 17 gave permission to the Lemonweir Valley Telephone Co., Camp Douglas, to issue 4,754 shares of common stock at a par value of $25 per share.

B.C. Company Building 11-Station Microwave System

The British Columbia Telephone Co. is constructing an 11-station microwave system with a capacity to more than double the present number of long distance telephone circuits to central and northern Vancouver Island.

The company reports that the line-of-sight 6,000-megacycle system will have an initial capacity of 264 circuits. The system will extend from Vancouver on the mainland, to Port Hardy, on northern Vancouver Island. Links to Coal Harbour and Holberg will be provided from Port Hardy.



Map of Vancouver Island where British Columbia Telephone Co. is constructing 11-station microwave system to double present long-distance telephone circuits.

The cost of the system is estimated to be 1 million dollars, with completion scheduled for mid-summer.

The new system will replace a 900-megacycle system of 120 channels which extends from Vancouver to Alert Bay, and connects with a Very High Frequency (VHF) system to Holberg.

Stations will be at five existing sites, at the British Columbia company's Vancouver headquarters building, at Saltspring Island, Campbell River, Newcastle Ridge and at Holberg. Entirely new sites are at Wellington, Merville, Bowser, and Coal Harbour. Two sites, Alert Bay, and Port Hardy, are near existing stations.

The new sites, and Port Hardy and Alert Bay, will have guyed towers of up to 250 feet in height. A parabolic antenna near the base of the tower will shoot signals onto a passive reflector, 10 by 15 feet, at the top of the structure. Signals will bounce from the reflector to the next relay station.

The Lenkurt Electric Co. of Canada, Ltd. is supervising all construction on an engineer, furnish and install (E.F. & I.) basis. Lenkurt type 74A2 frequency-diversity radio equipment is being installed. Order wire and fault alarm equipment are included in the project. The system will operate from battery plants for maximum reliability.

Stand-by power units will be 10KW, 1200 rpm diesel generators together with a 48-volt DC battery plant and rectifiers. These will be installed at the new locations and at Port Hardy. At Alert Bay a 20 KW diesel generator is being installed as a stand-by power source for the stations and the local telephone exchange. New battery plants are being installed at Campbell River and Newcastle Ridge.

Described as unique on Vancouver Island will be the two billboard-type reflectors, each 20 by 28 feet, to be erected near Coal Harbour. These passive reflectors will bounce microwave signals into the antennas at that site for relay to and from Port Hardy and Holberg. The reflectors will be placed so that signals will by-pass land obstructions which prevent line-of-sight signal transmission between these stations.

Stockholders OK 2-for-1 Split for Hawaiian Company

Hawaiian Telephone Co. stockholders on Mar. 22 approved the two-for-one common stock split recommended by the board of directors and first announced late last year.

At the annual meeting, the stockholders also authorized the issuance and sale of 7 million dollars of first mortgage bonds to help finance growth and improvement during the year.

The stock split was to be effective Apr. 3. Shareholders of record at the close of business on Mar. 30 were to receive one additional share for each share then held. The split will reduce the par value of the company's common stock from $10 to $5 per share and increase the authorized common stock to 4,500,000 shares. Nearly 2,117,000 shares outstanding on Mar. 22 are held by more than 12,000 shareholders.

J. Ballard Atherton, president, said after the stock split, the company hopes to pay dividends at the rate of 13½ cents per share per quarter, starting with the second quarter of 1961. The new dividend rate for the year would be equivalent to 54 cents per share, or $1.08 per share before the split. For the past five years, the company has paid a $1 dividend.

Mr. Atherton said the Hawaiian company's board of directors recommended the stock split to increase the marketability of stock and broaden the interest of the public in the stock.

The company, he said, expects to spend some 48 million dollars for growth and improvements in the next three years, and approximately two-thirds of this sum will be financed from outside sources.

Proposed Neb. Bill Permits Easier Service Transfer

A bill designed to facilitate Nebraska Railway Commission action in handling transfers of subscribers from one company area to another received 8-0 endorsement on Mar. 14 from the Public Works Committee of the Nebraska Legislature.

The bill, LB310, permits the commission to authorize such transfers provided it is agreeable to the subscriber (or subscribers) and *to both telephone companies.* It was introduced by Senators William B. Brandt of Unadilla and Willard H. Waldo of DeWitt.

The bill was supported by the Nebraska Telephone Association. There was no opposition.

Heretofore, according to Nebraska statute, such transfers could be made only when service could be shown to be inadequate, or when adequate service would not be provided within a reasonable length of time.

Another similar bill, LB545, drew considerable opposition and was held for later action. In effect, this would permit a telephone subscriber near a dividing line between two companies' exchanges, to decide from which exchange he would be served, with the consent of the company to which he would be transferred, but not requiring the consent of the company from which he was receiving service.

Telephone Party Line User Law Passed in Maine

A bill making it a crime to refuse to yield a telephone party line for an emergency call has been signed into Maine law by Governor Reed. Also covered in the act is the demanding of the use of a party line on the pretext of an emergency.

Either offense will be subject to a fine of up to $300, jail up to one month, or both.

An emergency is defined in the law as a situation in which life or property is in danger and the prompt summoning of aid is essential.

Authorize Sale in Mo.

The Missouri Public Service Commission recently approved the sale of the Fortuna Telephone Co. to Harold Jones of Gilliam. Mr. Jones is manager of the Mid-Missouri Telephone Co., Gilliam, and it is planned that the Fortuna exchange will be incorporated into the Mid-Missouri company's system.

Neither wind nor rain shall keep this Messenger...

. . . Wire from giving long and dependable service. The reason is simply that CF&I Galvanized Steel Strand is built to give better performance — the strength to support heavy cable . . . the pliability that means easy installation . . . and the weather-resistance that shrugs off the foulest operating conditions.

Drawn from specially selected steels, every wire in CF&I Galvanized Strand is hot-dipped in zinc to assure a tough, corrosion-resistant coating. CF&I Galvanized Steel Strand meets ASTM specification A-122 and is available in 3- and 7-wire constructions. Or, if you desire, special constructions can be manufactured to meet your requirements.

Call your CF&I sales office for complete details and speedy delivery.

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HOME INTERPHONE. Now families can enjoy a home communications system that uses telephones. They can talk from room to room, call people to the phone, summon everyone to supper—things they may have to do now by shouting or walking. Near each phone in the home is a speaker which broadcasts the caller's voice. The person called can answer hands-free because a microphone in the phone's base picks up replies.

The Bell System's Spring Phone Fair

PRINCESS PHONE. It's little, it's lovely, it lights! The new Princess is small to save space, and styled with modern grace. The dial glows in the dark so it can be found quickly and, when the receiver is lifted, it lights up brightly to make dialing easy. Choice of five colors.

HANDY WALL PHONE. The busy, active rooms in a home are natural locations for this extension — the kitchen, a basement workshop, a family room. →

PHONES IN DECORATOR COLORS. Not only can extension phones give convenience and comfort, but in color they can add new beauty to any room. ↓

BELL

HOME INTERPHONE lets them answer the door, too, from the nearest extension. When the doorbell rings, and they are alone in the house, or ill, or dressing, they can find out their visitor's business safely, easily and without embarrassment. Just pick up a phone, push a button, and talk. Mounted by the door is a small microphone-speaker unit which broadcasts their voice, and carries their visitor's reply to the phone they are holding.

Featured a World of New Services!

Modern living can be gay as a spring fair with the help of the world of convenient, new telephone services.

That's why the Bell System chose the "Spring Phone Fair" theme to promote these new services this year.

In Life, Post, Look, and nine other major magazines, bright and exciting full-color ads featured many of the most popular new telephone services.

These ads invited millions of Americans in all sections of our nation to visit their telephone business offices and view what's new in home communications. Many of these services are shown on these pages.

We feel that the "Spring Phone Fair" – and other promotions like it – performed two important services for all telephone companies.

First, they sold new telephone services.

Secondly, they showed the public how telephone companies are constantly striving to make modern life easier, more enjoyable and more effortless through improved communications.

We're confident that our "Spring Phone Fair" created great interest in Bell System and independent telephone company communications. And this interest turned into greater sales and respect for your telephone company, too.

BELL CHIME. Centrally located in a home, it announces calls for all extensions with a pleasant chime. It can also be set for a louder bell, or the familiar ring. In soft gold or ivory finish.

TELEPHONE SYSTEM

Bell Confident of Producing High-Quality Space System

The Bell System is confident it can develop a high-quality space communication system "in the shortest possible time," American Telephone & Telegraph Co.'s president, Frederick R. Kappel, said on Mar. 22.

Speaking at the annual meeting of the North Carolina Citizens Association in Raleigh, Mr. Kappel said the Bell System is "already well along on developing an experimental satellite."

A whole new array of future communication developments was visualized by Mr. Kappel. Telephones which will let people see to whom they talk, and telephones as optional equipment in automobiles will be commonplace in the predictable future, he said.

Concerning the Bell System's experimental satellite, Mr. Kappel said, "What we need now is for some branch of the government to launch this so we can start testing. And we would be glad to pay for the rockets."

He emphasized that AT&T is not seeking "a monopoly of space communications." Mr. Kappel explained:

"The creation of the satellite system we propose in order to do our public service job as it ought to be done would not under any circumstances preclude the development of other space communication systems. Space is a great big place and we don't expect to fill it.

"We are convinced that the AT&T company's plans and proposals offer by all odds the best means to serve the public's increasing needs, to get a working system 'in being' in the shortest possible time, and to insure that this country will lead the way in international communications. But there is nothing whatever in our proposals that would conflict with the American tradition or limit the opportunity of others. On the contrary, the opportunities of others would be increased."

Mr. Kappel said space communication systems are a natural extension of the communication networks now provided by the Bell System.

Like present overseas communication services, service by satellites would be furnished under government regulation, he said.

Ownership of the satellite system AT&T proposes would be handled in the traditional way, Mr. Kappel emphasized, with foreign terminals owned by foreign communications agencies.

"The Bell System has had many years of fine and satisfactory dealings with these agencies all over the world and we wouldn't expect any change in this respect," he said.

Such a space communication system would also be available for use by all international "common carrier" companies in this country for any purposes that the Federal Communications Commission authorizes them to provide, Mr. Kappel declared. This could be done, he said, "either through leasing arrangements, as is now done in the case of ocean telephone cables, or by the other companies participating in ownership of the system by sharing prorata in the capital cost and operating expenses."

Also, Mr. Kappel said, "we would expect to obtain a very large part of the ground station equipment, and many of the elements of the satellites themselves, on a competitive basis from other companies. So there would be all kinds of opportunity for the producers of electronic gear and many other products."

Space communications was only one of the Bell System developments discussed by Mr. Kappel.

"A telephone for your car would be as commonplace as power steering, though possibly 'optional at extra cost'," he said.

He also foresaw the day when people will be able to see to whom they talk on the telephone.

"Many of you ladies here tonight may be able to see what you buy when you shop by telephone," Mr. Kappel said. "Almost certainly your daughters will. And they and their families will be able to visit museums by telephone—take study courses by telephone—and perhaps some day even call the library, ask for books and reference materials, and read them by telephone."

"If we in the communications business keep our eye on the ball we can do a lot for the country," Mr. Kappel said. "Progress in communications will promote economic growth by helping all industry to control costs and increase efficiency."

Bill Proposes States Take Over Telephone Tax

A bill before Congress would permit states to take over the 10 per cent federal excise tax on telephones.

The measure is similar to one endorsed last year by Gov. Nelson A. Rockefeller of New York, but rejected by former President Eisenhower.

Sponsor of the current measure is Rep. Charles E. Goodell (R., N. Y.), who suggested that the tax money be used for school aid.

He said the state of New York would receive 66 million dollars a year, if permitted to take over the tax, as compared to $37,650,000 the state would receive under President Kennedy's aid to education proposal.

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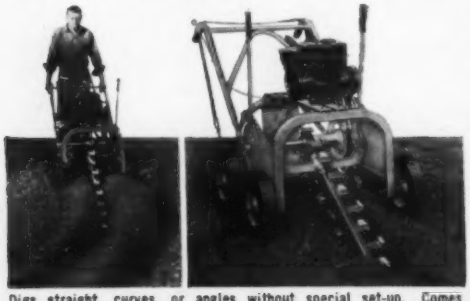

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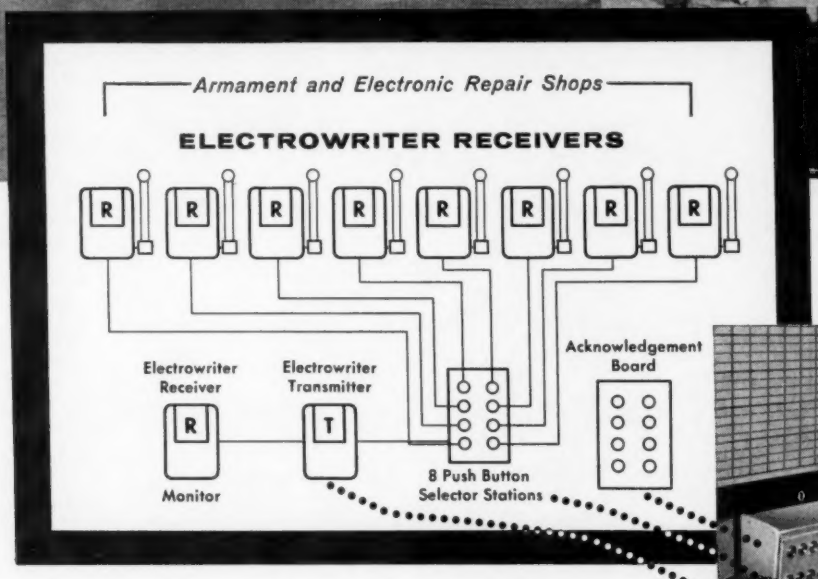

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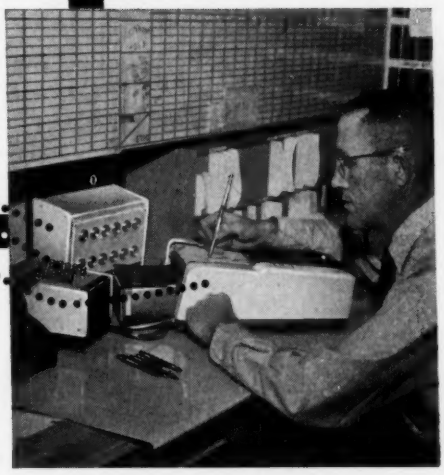
UNITED STATES AIR FORCE



Dispatcher

Here's how ADC *Says it in writing* AT HAMILTON AIR FORCE BASE

The Air Defense Command, Hamilton Air Force Base, cuts manpower and time in processing vital aircraft maintenance instructions through the use of Electrowriter Systems. Writing directly on an Electrowriter Transmitter, Central Maintenance transmits a description of the maintenance requested by an incoming aircraft. A pushbutton selector chooses the stations to receive the message. At Hamilton, there are nine receiving stations for Field Maintenance and eight receiving stations for Armament and Electronic services. Each shop concerned with the maintenance required receives the instructions instantaneously, *as they are written.*

The Electrowriter System combines the speed of the telephone voice with the accuracy of written instructions. Only one writing of the instructions is needed throughout the entire system. Speed and accuracy is increased and manpower is saved.

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Designed exclusively for the telephone industry—
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Optional, Polyethylene

Cable Conductor—22 Gauge

Over-all Length Cable—12′ Standard or to Customer Specification

Tolerance—± 5% Standard, Other Tolerances Available on Request

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News on New Products

80-LINE PABX—Introduced by Leich Sales Corp. is a new extra-service 80A-S PABX. This 80-line stock PABX offers the same service features as Leich's 40A PABX.

A 26-trunk keyset turret lets the attendant extend incoming calls quickly and easily. By simply depressing three keyset buttons in sequence, she extends these calls.

On the other hand, inside, outgoing, and city trunk transfer calls are made without help from the attendant. Leich states that even consultation-conference service is a standard feature of this new PABX. Standard dial telephones without special buttons or equipment are used.

Dimensions of the new Leich PABX are as follows:

Keyset turret, 16 inches wide (excluding handset cradle); 16½ inches deep, 7½ inches high.

Switchboard Cabinet, 72 inches wide, 15 inches deep, 72 inches high.

Fig. 1. Modern 26-trunk turret used with Leich's 80A-S PABX.

	80A-S	
	Wired	Equipped
Lines	80	80
Links	9/12	None
City Trunks	18	None
Inward Attendant's Trunks	4	3
Outward Attendant Trunk	1	1

Digit Assignments

20 Busy Tone
29 Busy Tone

TELEPHONY PUBLISHING CORP.
608 S. Dearborn St.
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Please have the manufacturer send me without obligation the literature indicated by the following numbers:

NP1579_____; NP1580_____; NP1581_____; NP1582_____;
NP1583_____; NP1584_____; NP1585_____; NP1586_____;
NP1587_____; NP1588_____.

Name.....

Company.....

Street.....

Town and State.....

4/1/61

0	Attendant Operator
9	City Trunks (1st Group)
8	Universal Night Answer
7	Busy Tone (Prewired for Code Call)†
6	Busy Tone (Prewired for Meet-Me Conference)
5	Busy Tone (Prewired for 2nd Trunk Group)
4	Busy Tone (Prewired for 3rd Trunk Group)
3	Busy Tone
2	Local Lines
1	Absorb Repeatedly

†Line 231 assigned for Code Call Answer, when equipped.

The table below shows examples of various equipment arrangements that may be derived from the basic stockboard.

Example	Local Lines Available	Links	Trunks	Attendant In	Trunks Out	Bank Outlets for Optional Features	Meet-Me Conference Available
A.	79	9	15	3	1	2	Yes
B.	76	9	18	3	1	2	Yes
C.	74	9	20	3	1	2	No
D.	79	12	13	3	1	4	Yes
E.	79	12	16	3	1	1	No

Standard Features

(1) Three-digit local dialing.

(2) Universal night answer: optional wiring for predetermined night answer.

(3) Attendant's turret, No. 018738—26 trunks fully equipped.

(4) No wiring required to add city trunks or links 1-9. Subcable furnished to add links 10-12.

(5) a. Equipped for 3-trunk groups. b. First choice selection on outgoing calls on groups "9" and "5". c. Local lines may be restricted or partially restricted in having access to trunk groups.

(6) Power failure transfer, 20 stations. Five stations are pre-assigned to trunks 1-5 respectively. An additional 15 stations may be combined with trunks as required.

(7) A 2-station, 1-trunk consultation-conference circuit is provided for each trunk equipped.

(8) Station consultation and trunk transfer by standard 2-conductor-line telephone. Consultation calls are made by either dialing the digit "1", or momentarily depressing the telephone hookswitch.

(9) Power plant: 12 amp. battery eliminator or charger and transistorized

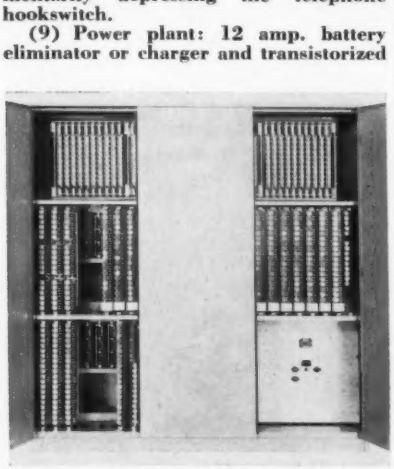
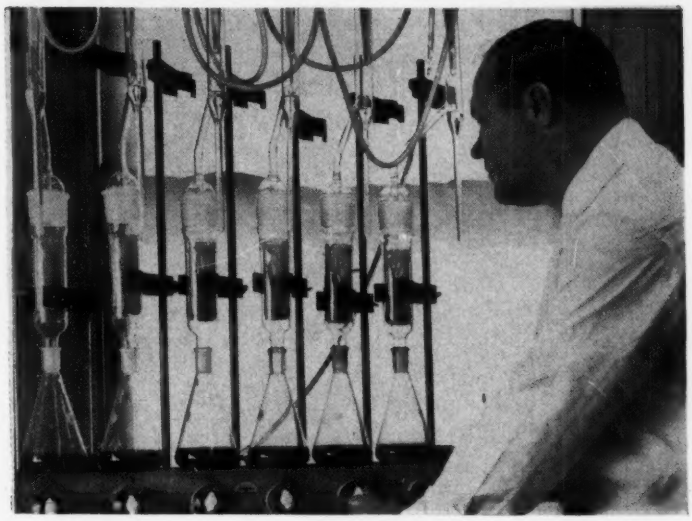


Fig. 2. All-Relay Leich Dial System used with Leich's 80A-S PABX.

TECHNICAL BRIEF NO. 60-1

By D. L. DAVIES, *Manager, Technical Dept.*
Wood Preserving Div., Koppers Company, Inc.

USE OF THE ASSAY METHOD TO DETERMINE RETENTION IN POLES



PRESENT STATUS

The Assay Method of determining preservative retention in pole charges has been described in Koppers Technical Bulletins W-101 and W-102. Following is the status of the Assay Method as a replacement for the less accurate gauge method of determining preservative retention.

The Western Electric Company, Inc. over 2 years ago made the Assay Method a part of its specifications on all new pole contracts. This major specification change was adopted to eliminate "weak sister" charges — charges which meet standard specifications by other measurement tools, but which in reality do not contain sufficient preservative to provide long-lasting protection.

The Rural Electrification Administration in April, 1960 issued new specifications which make mandatory that determination of retention in poles be made by the Assay Method. Many REA utilities have suffered financial loss from premature pole failures. They, too, want to eliminate the "weak sisters".

The Federal Government has a tentative specification TT-W-571f, now being reviewed by industry, which also calls for the Assay Method for determining retention (without alternates) in both poles and piles.

The AWPA adopted the Assay Method for determining retention in poles as a "full standard" at the April 24-26, 1960 meeting.

HOW TO APPLY THE ASSAY METHOD

In applying the Assay Method to poles, the specifications require that the outside ½" of the pole section be discarded. This section usually contains about 14-lb. preservative per cubic foot. Specifications further require that the next 1½" be assayed for retention. Therefore, an 8-lb. normal gauge retention charge must have a minimum of 6-lbs. per cubic foot in this zone. A 10-lb. treatment must have 7½ lbs. and a 12-lb. treatment must have 9-lb. in the assayed zone. No undertreatment allowance is permitted. Adoption of these retention requirements represents the most significant advance in standards for pine pole treatment since the adoption of 2½" or 85% sapwood penetration requirement in the late 1930's.

ANY COMPANY CAN ADOPT THE ASSAY METHOD

The status of the Assay Method for determining retention has advanced to the stage that any company can adopt it by a simple notation on the purchase order specifying that "poles are to be treated to a retention of *x* pounds/cubic foot as determined by assay".

• • • • • • • • • • • •

For the full report on using the Assay Method, or answers to technical questions on poles or pole treatment, write: Koppers Company, Inc., Wood Preserving Division, Technical Dept., Room 757, Koppers Building, Pittsburgh 19, Pa.

C-48

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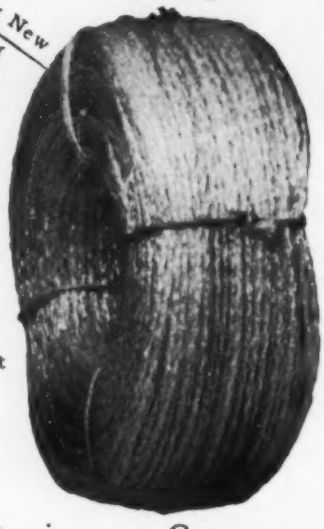

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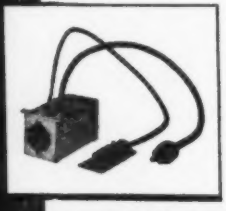

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Pioneers in Photo Electric Lighting Controls

7½ watt ringing generator and 25 milliwatt tone generator.

Request NP1579.

•

CLOSED-CIRCUIT TV SYSTEM—A closed-circuit television system which utilizes ordinary telephone lines for long distance transmission of high quality pictures has been developed by International Telephone & Telegraph Corp.

Known by the trade name "VIDEX," the company states the system is expected to have its greatest application as an inter-plant communication medium.

It permits transmission of many types of visual information. ITT engineers suggest its use with such items as weather maps, business charts, photographs.

Concerning "VIDEX," Dr. R. T. Watson, director of ITT's Components and Instrumentation Laboratory, explains that although VIDEX differs from commercial television, in that it is "slow scan"—requiring 15 to 60 seconds to send a complete picture; it is reputed to be one of the fastest image transmission systems of its kind.

Dr. Watson also said "VIDEX" is the result of the development of new electron tube components. These, in effect, "compress" the 3,500,000-cycle bandwidth, required for ordinary TV, to the 3,500-cycle limit of telephone circuits. He said that while direct connection to conventional telephone lines would be the most common linking method, transmission can be achieved via radio voice channels.

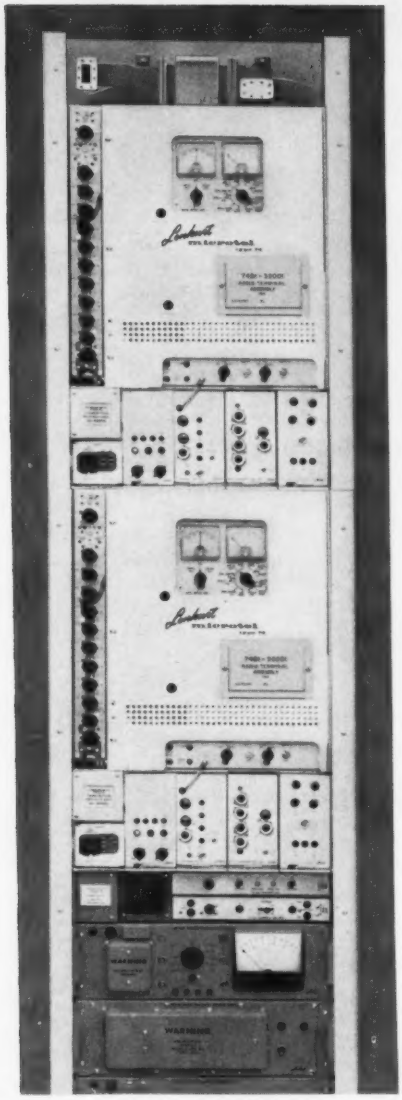
"VIDEX" equipment is described as transistorized, and weighing no more than a home TV receiver. It is hand-portable.

Other uses for "VIDEX," ITT states, include ship-to-shore transmission of pictures over existing marine radio channels and on-the-spot news pictures from remote locations. It is also possible to use ordinary audio tape recorders with the "VIDEX" equipment to store and play back pictures at a later time. Request NP1580.

•

MICROWAVE RADIO SYSTEM—A new broadband microwave radio system, called type 74B, said to be suitable for operation at any frequency in the 5925-6425 mc common carrier band, is now offered by Lenkurt Electric Co.

The system can be equipped for space or frequency diversity. In either case, according to Lenkurt, protection circuitry operates with no level changes or interruptions, and is described as



assuring steady, error-free data transmission.

The standard, built-in transmitter stability is ±0.02 per cent or better, which exceeds Federal Communications Commission requirements by ±0.03 per cent. Transmitter klystron output is 1 watt.

Another advantage of this microwave radio system is that all power needs in the terminals are met with fully regulated d-c voltages from power supplies that are insensitive to frequency variations, or power surges, from the user's power source, the manufacturer states.

Also extended or long-haul systems, the type 74B can be provided with an optional baseband regulator to hold over-all level variations to ±0.2 db.

When used with appropriate multiplex equipment, a basic duplex 74B system will handle 300 v-f channels or more, depending on application. The

Here's the NEW CALCULAGRAPH "POSITIVE GUIDE" Tab Ticket Plate*

Assures Still Greater Toll-Timing Accuracy

This is the newly developed "positive guide" tab ticket plate that provides positive protection against misalignment of tab-size toll tickets without any loss of speed. Now you can completely eliminate inaccuracies due to improper registration of the toll time. What's more, this new ticket plate is interchangeable with existing plates. This means the change can be made in the field without disrupting operations on your switchboard. And it only takes a minute or two to do — it's that easy.

This new development adds to the long list of Calculagraph engineering accomplishments that have solved telephone industry toll-timing problems for more than six decades. Plan now to add this new feature to your Calculagraphs.

**Also available for Calculagraph "round" models.*

CALCULAGRAPH Company

274A Ridgedale Avenue, East Hanover, New Jersey

new Lenkurt Microtel system is reported to be able to accommodate as many as 900 voice channels, when three operating r-f channels are used on a common antenna.

Heat sinks and reference cavities are used in place of ovens and blowers to reduce power consumption and maintenance. Request NP1581.

•

CENTER-MOUNTED DERRICK — A center-mounted derrick, said to be the first for the utility field that can be operated from a rotating crow's-nest, is now offered by Holan Corp.

The Holan 7700 hydraulic derrick, the manufacturer states, can be easily mounted on the chassis at any point behind the cab, and requires only 18 inches to 26 inches mounting space, depending upon the mounting and jack choice.

The derrick — including the base, superstructure and hydraulic outriggers —is built as an integral unit to minimize body and derrick stresses.

Holan explains that, seated in the crow's-nest, the derrick operator has an unobstructed view of his work, and can dig, "live boom" up to 9,000 pounds; rotate 360° in either direction, and extend and retract the 7-foot boom. Foot pedal controls rotate the derrick and operate the digger. The derrick vertical movement and boom extension and retraction operations are controlled by hand levers.

The model 7700 has a head sheave

height of 32 feet maximum, 30 inches minimum, operating through a range of 108°. It has an offset sheave design which holds the pole away from the derrick leg, thus providing the company says, additional clearance for pole handling.

Optional equipment offered by Holan is same semi-automatic locking device for the earth borer as that used on the 7500 corner derrick. The device locks the earth borer to the extendible boom for digging, automatically locks the borer to the end of the main boom when retracted. A Fiberglas boom extension, with or without bucket, is also available as optional equipment.

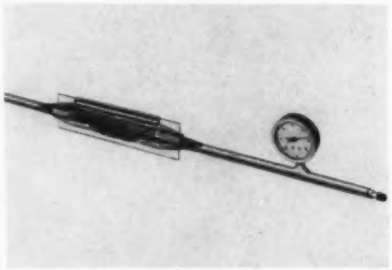
Diagonal slide-out type hydraulic outriggers provide a 134-inch span for stabilizing the unit. Fold-over type outriggers can be used, providing a 160-inch stabilizing span.

The standard unit has a hydraulically-driven winch mounted in the base of the derrick; or as an option, the winch can be mounted in the rotating superstructure.

The model 7700 derrick can be equipped with any of three Holan earth borers: the three-speed 5400, the 4450 or the 4401-H. Request NP1582.

•

LEAD CABLE SEALING COMPOUND —C & S Products Co. has announced availability of their Semper-Seal which provides a method of plugging pres-



surized, lead sheathed telephone and communication cable.

Semper-Seal, a clear, epoxy resin cable splice and plugging compound, is reported to enable a water and air-tight seal to be made on paper-covered conductors encased in lead.

Plugs of this type, C & S says, can be made on aerial or buried cable in wet or dry locations and it is reported will remain unaffected by extreme environmental conditions.

Photograph shows a typical lead cable plug with a pressure gauge which is said to register and retain twice the normal operating pressure. Request NP-1583.

•

CABLE PRESSURIZATION COMPUTER—S & G Mfg. Corp. now lists as part No. 8266 a cable pressurization computer in its own plastic case.

This computer is reported to be an instrument for quickly performing the mathematical computations required for cable pressure analysis procedures which are based on the computation of flow and pressure drop.

It is composed of three parts, *the body*, *the slide*, and *the indicator*. The

ARPS MODEL L-12 Trench Devil CHALLENGES ALL COMPARISON!

GET THE FACTS and complete specifications on the Trench Devil from this specially prepared brochure.

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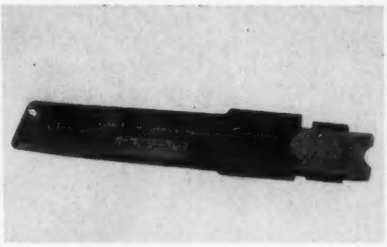

body of the computer has two sections, top and bottom, which are separated by the slide which moves between them. The indicator is composed of a clear plastic rectangle with a fine line etched on it. This line is referred to as *the hairline.*

This computer, S & G states, can make the following computations: (a) compute flow (SCFH); (b) compute pressure drop (PSI); (c) compute the reciprocal of a pneumatic resistance; and (d) compute problems of proportion involving pneumatic resistance, distance, flow and pressure drop. It contains five separate scales.

A 20-page booklet giving, in detail, instructions for the use of the computer through illustration diagrams and step-by-step text is furnished with it. Request NP1584.

•

AIR DRYER FOR SMALL EXCHANGES—Puregas Equipment Corp. recently introduced a new air dryer—the model 600 which was developed, the company says, to meet the industry's requirement for a small pressure source to pressurize the limited cable plant of small telephone exchanges, CDO's, repeater and toll cable stations, railroads, etc.

Fully automatic, the Puregas model 600 air dryer will deliver 600 standard cubic feet of dry air per day continuously at adjustable pressures from 0 to 15 psig, according to the company.

Air drying is accomplished by a combination of compression, refrigeration and chemical absorption principles that is described as reducing the relative humidity of ambient air from 100 per cent at high temperatures, to less than 2 per cent at 70 degrees F. for delivery to cable systems.

The Puregas model 600 air dryer is REA-approved. It is said to incorporate features designed particularly for the requirements of small telephone companies with limited facilities and manpower.

For instance, the new air dryer, the company points out, is available with a factory mounted and internally piped meter panel. This feature combined with flexibility of either floor or wall mounting, is said to mean minimum

FOR THE TELEPHONE INDUSTRY

MAGNOLIA SLIP PROOF WAX

M-666

Telephone Company floors fortified with Magnolia Slip Proof Wax assures safer footing for all walks of life. It produces a lusterous finish without polishing but, also, gives protective finish that is long wearing, scuffs to a minimum. Magnolia Slip Proof Wax spreads easily and smoothly.

Approximate coverage fifteen hundred to two thousand square feet per gallon. Drying time thirty minutes.

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"THE CLEANER DOES THE WORK"

Formulated to do the most rugged cleaning jobs, such as removing scum, ground-in dirt and Wax Films, without harming the finest floor surfaces. Magnolia Wax Remover contains special soaps, detergents and sequestering agents selected for cold and hard water efficiency. "Triple-action" of Magnolia Wax Remover penetrates the dirt and film rapidly—holds the "wet dirt" in suspension on the surface—allows it to be thoroughly and completely "rinsed" from the floor.

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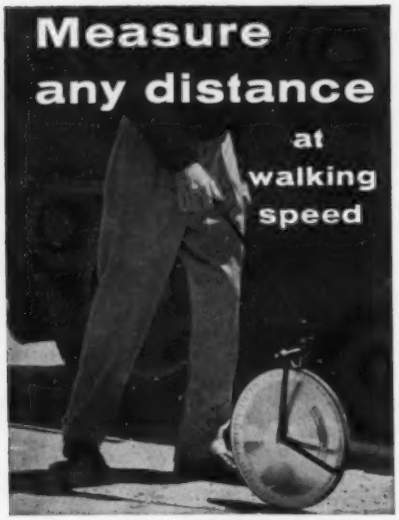

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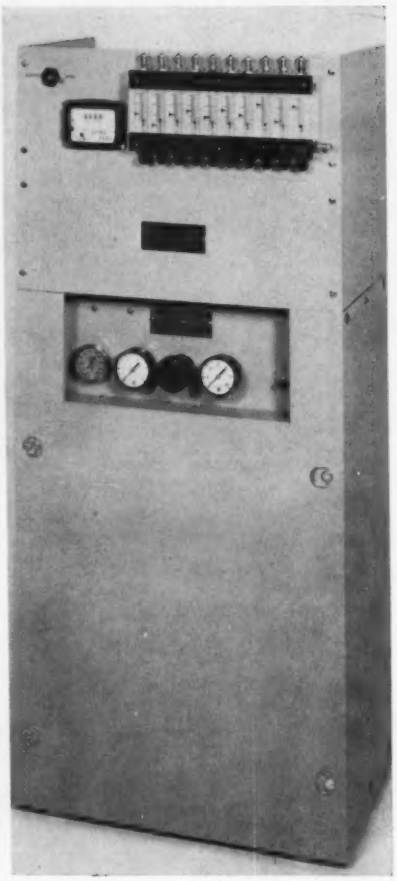


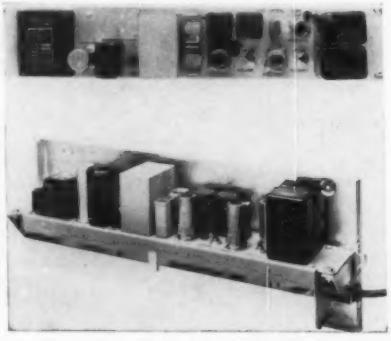
space requirements and simplicity of installation.

In addition, an oil-less air compressor is coupled with the refrigeration drying system. Request NP1585.

•

DIVIDED RING CARRIER—Production of a new divided ringing carrier system for providing two-party, single-ringing frequency, subscriber service is announced by Budelman Electronics Corp.

Known as Type PLC-DR, the carrier system operates over any existing metallic telephone pair whose attenuation is less than 35 db, Budelman says, without interference with existing physical service.

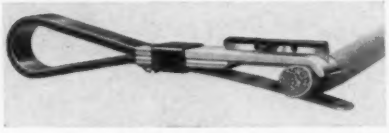


For each two-party carrier channel, a model 341B Central Office Terminal and a Model 344A Subscriber Terminal are required. The company explains that the divided ringing technique used permits selective ringing of two subscribers served by the same channel.

This new Type PLC-DR subscriber carrier system differs from standard Type PLC carrier, in that a plug-in, transistorized-ringing selection-relay circuit module has been added to the subscriber carrier terminal; and a single capacitor has been added to the central office terminal. Budelman states that by simply removing the plug-in module, the system is converted from divided-coded ringing to bridged-coded ringing. Hence, the system can be used for two-party, selective ringing service, or upgraded to single-party service by removal of the plug-in module. Request NP1586.

•

CABLE TOOL FOR RING CUTTING—A new cable tool, No. N-2060, for ring cutting the sheathing of "inside type" plastic fabric or rubber-covered cable, has been made available by P. K. Neuses, Inc. The company describes the tool's operation as follows: Cable



is pushed into tool and against the spring. Back pressure holds the cable against the cutting blade. A .03125-inch deep cut is made when the tool is rotated around the circumference of the cable.

This tool is said to be most suited for the customary inside type 3/16 inch, 1/4 inch, 3/8 inch or 1/2 inch cables, but will handle thin sheathed cable up to 1 inch diameter. Cuts are always 1/32 inch deep in each instance.

Cable sheath slitter No. N-62267, for slitting the cable lengthwise after circular cutting, is also available. Request NP1587.

•

REPEATER TERMINATING UNIT—Announced by Altec Lansing Corp. is a new telephone repeater terminating unit, the model 7300.

The 7300 terminating unit is equipped with test circuit jacks and is designed for installation on a standard 19-inch relay rack, occupying 1¾ inch of rack height. The company states it accommodates plug-in units enabling assembly

install C&D PlastiCal®

If you require premium batteries for communication service—telephone, carrier or microwave—then specify C & D *PlastiCal* batteries. Get premium life (25-years) for a fraction of the cost of premium batteries. C & D *PlastiCal* batteries feature lead-calcium alloy grids completely free from the life-shortening effect of antimony found in conventional battery grids. Thus, a pasted-plate battery with lead-calcium grids gives extra long life and costs less than a premium battery with pure lead grids.

In addition to extra life, C & D PlastiCal batteries—

- Provide extra life because very little current is required to maintain a full charge. Thus internal corrosive action is drastically reduced.
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A C & D representative will be glad to explain these and many other advantages of C & D PlastiCal batteries. If you prefer, write for a copy of bulletin T-532.

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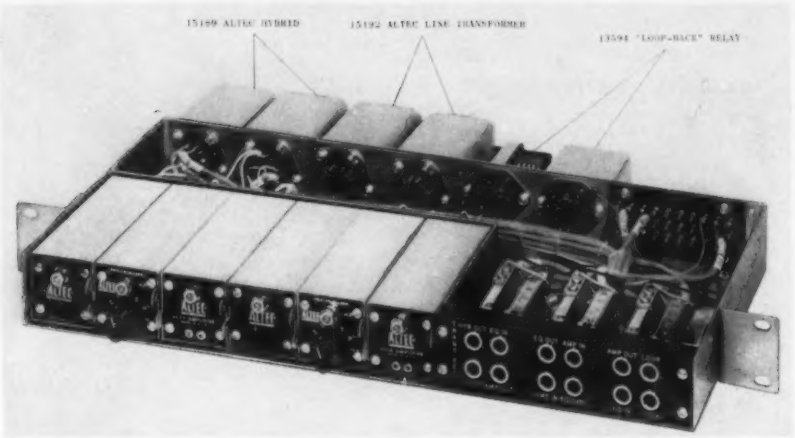

of two-wire to four-wire termination, four-wire intermediate, and two-wire to two-wire repeater sets.

These Altec Lansing plug-in type circuit units are said to furnish a rapid and simple means of establishing repeater VF telephone panels at PBX installations, at general telephone circuits and for telegraph and teletype circuits.

The units consist of transistorized repeater amplifiers, frequency correction equalizers, compromise and precision balancing networks, hybrid coils and transformers, and line transformers. Available as additional accessories are attenuator pads, loop-back relays, and by-pass plug assemblies. The company also states an insulated jack mounting block containing twelve jacks is provided to permit routine system testing. Request NP1588.

Facing Up

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A NEW LINE OF *fully automatic* ACME MAGNISTROL

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ACME ELECTRIC CORPORATION
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MANAGEMENT OF MATERIAL

Concluded from page 24

are essential in making it possible for supervision to do a good job of material management, but the actual results are still dependent upon the attitude of local supervision, and their sincere desire to accomplish the desired result. In other words, the same measures are required in improving material management, as are required in improving any other part of the operation. Supervisory training courses should include material management as a part of the training for supervisors. Higher levels of supervision should discuss material management results with the same emphasis that they do production and costs. When the available administrative controls indicate poor results in managing material, this should be given the same attention that would be given to poor manhour results.

The future holds no hope for a simplification of our material management problems. In fact there is every reason to believe that they will become more complex with more varieties of services, and greater emphasis on shortening the time required to provide these services. Mechanization may simplify the paper work and shorten the ordering interval, but the problem of providing communication services with a minimum of inventory, and a maximum of production efficiency, will challenge the best efforts of all levels of management.

IT CAN BE DONE IN '61

Continued from page 30

You should be on your subscribers' side. Keep him informed about your telephone business, about your plant investment, about your operating expenses, about your available services and facilities, about new things, about your improvement plans. Try to educate and illuminate your patrons about telephony in general.

These things *can be done in 1961.* Remember that an informed telephone subscriber is usually a friendly one, with *you* on *your* side, whereas an uninformed subscriber can become a vociferous critic.

I say—let us pull together, plan together, work together. In the eyes of our benevolent public we are one industry, one service. We should, and must be, all for one and one for all.

Before I close I want to philosophize for just a moment or two. *This is the greatest, the best, the most wonderful country in the whole wide world!* I know it is and I want you to know it! I know it for many reasons, but one

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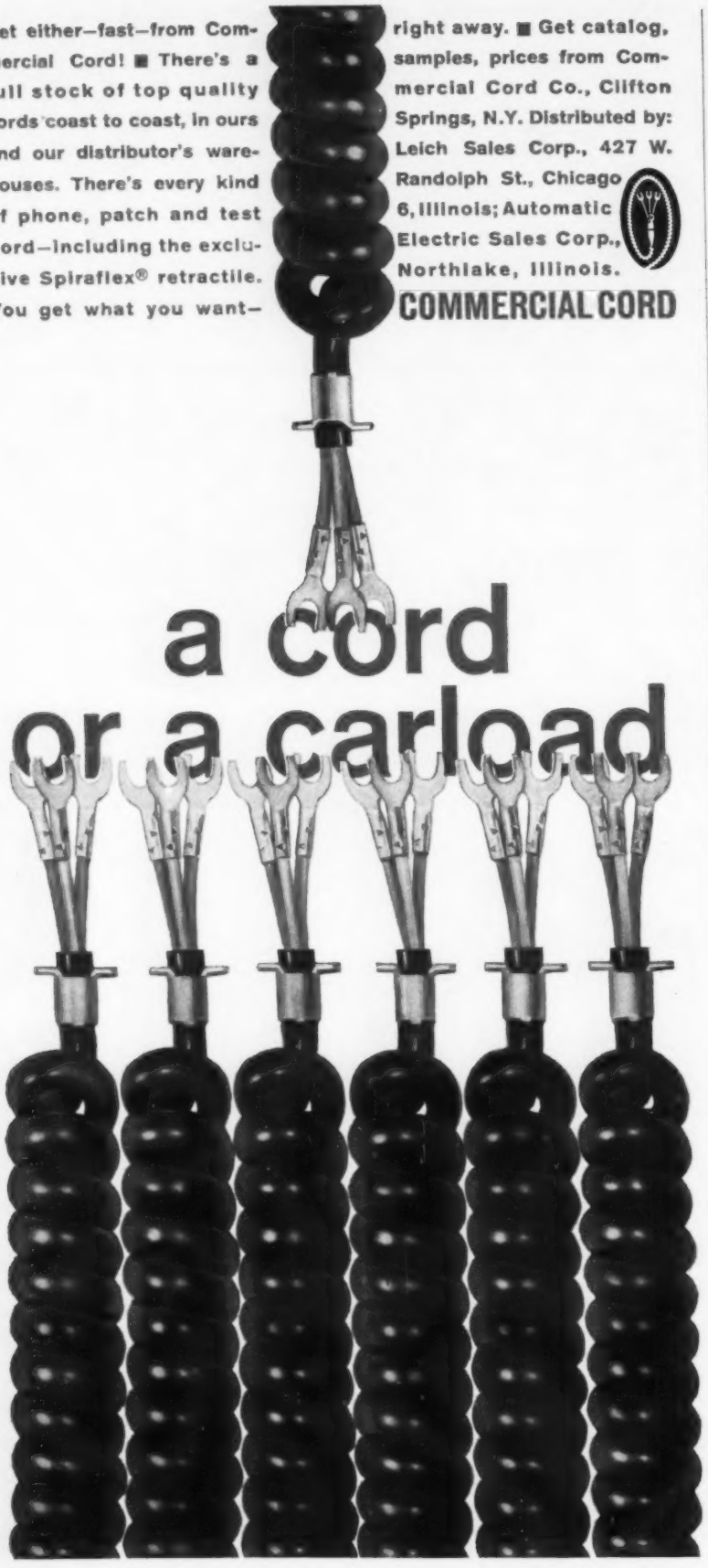

reason I feel it and believe it so deeply is because I have been in 26 foreign countries. In every single one of them, people talked to me, asked me with a burning and frantic desire and interest about our U.S.A. There was always the inevitable question—usually plaintively expressed—"how can I get into America?"—"how can I move there to live?"

Remember the song you learned in school? It opens with this:

"My Country 'Tis of Thee, Sweet Land of *Liberty*!" Did you ever dwell upon that word—*liberty*? Do you really know what it means?

Do you really appreciate it? Do you realize that three-fourths of the people on this earth—right now in 1961—do not have it, do not know about it in any way?

We have fought several wars to preserve liberty, and we may soon have to fight another. Our liberty is again threatened. Our very way of life is in jeopardy; our social, economic and political orders, as we know them, are at stake.

President Kennedy has said that we are in great national peril, that before his first term is over, our way of life will be tested anew. These are not pleasant facts, but this is a brutal world. There are brutal facts to face, and there are difficult decisions which must be made. We have faced great challenges before and we can successfully face them again. One thing is quite clear: *We must remain strong, we must not weaken or be weakened. If we ever lose our technique of being able to negotiate from a platform of strength, we are lost.*

My friends, appreciate your U.S.A.! Do all you can to preserve it, do all you can to keep it strong and healthy, do all you can to keep it free, to keep our free enterprise system—indeed to keep our way of life. There is a formidable force rampant in the world today which would take it all away from you, from me, and from all of us.

Yes, here is a challenge and a real challenge. But we must meet this challenge now or those of us who are left will spend the rest of our later years telling our children and our children's children what it once was like when men were free in America.

Obituary

RAYMOND H. LISTMAN, supervisor of operations in the installation department of Automatic Electric Sales Corp., Northlake, Ill., died suddenly of a heart attack on Mar. 9, at his home in Round Lake, Ill.

Mr. Listman had been with Automatic Electric for 24 years, starting in the shop and later transferring to in-

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Superior Cable's exclusive economical "Super-Splice" is a plastic splice sleeve. It is sealed at one end and comes to you filled with an insulating and waterproofing compound.*

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stallation. In the latter position he had become widely known among Independent telephone men.

A native of Chicago, he was a graduate of Lane Technical High School. Later, he studied factory management at Northwestern University, and electrical engineering at Armour Institute (now Illinois Institute of Technology).

Surviving are the widow, Bernadette, a daughter, Rita, a son, Raymond Jr., and his mother.

TRUE FREE ENTERPRISE CLIMATE

Concluded from page 33

and only through growth and increased profits of a company that we can all obtain a raise in salaries," Frank Uphues of Oak Park, Ill., general manager of sales promotion for Crane and Ordway Co., wholesale plumbing suppliers, told the convention.

Mr. Uphues said that "when this truth is clearly understood by your own personnel, then they will all be much more interested in sales promotion, growth and profits."

He said that rather than considering markets "saturated," business must think and act in terms for a further "penetration of markets." He stated further:

"Fifteen years ago most everyone had one or two radios, a clothes washer and an automobile, yet witness the rise in sales of these products since. I don't believe that in any real sense, the domestic market for goods and services is any closer to saturation today, than it was 15 years ago.

"Yesterday's luxury becomes tomorrow's necessity!"

Mr. Uphues declared it is up to the telephone industry itself whether its natural growth will just keep pace with other industries, or "whether it will provide an increase in usage of your products and services."

"There is no doubt as to the need and desirability of two, three or four telephones per home, but it's up to the industry to make this the minimum standard for the future."

Suggesting that the 1961 slogan for business might well be "Pitch In, Peddle and Produce," Mr. Uphues declared that an alert management and sales organization must provide leadership and enthusiasm for the over-all job of increasing sales and profits.

"When management shows real leadership, then the whole organization will pitch in," he concluded.

In conformity with pre-convention announcements of plans to merge the North and South Dakota telephone associations into the Minnesota association, the merger proposal came to the convention floor. Following a prolonged discussion, a talley was made of the votes cast at the meeting and by mail by association members. The favorable votes failed to meet legal requirements which call for a two-thirds majority. However, the sentiment expressed by the voting members clearly showed a ratio of 4-to-1 in favor of merging with the Dakota associations.

In view of this sentiment, the convention passed resolutions to take another vote on the merger proposal.

The convention re-elected the following directors: K. P. Ellefson of Ada and K. M. Peterson of Kerkhoven. Also elected directors were H. James Boyd of Alexandria; R. W. Bunke of Houston; J. R. Mulhearn of Minneapolis, and W. E. Piehn of Harmony.

Other directors are H. R. Bollinger of Waconia; C. R. Cashel of Worthington; Eldon Eckles of Blue Earth; H. L. Ericson of Hector; P. M. Ferguson Jr. of Mankato; J. G. Holland of New Ulm; H. J. Lien of Blackduck; A. E. Lindekugel of Fairmont, and Vies Martinsen of Grand Meadow.

The directors elected the following officers: President, Mr. Ellefson; vice president, Mr. Ferguson, and secretary-treasurer, Keith W. Vogt.

Program to Fight Excise Tax Planned by Ill. Association

At a recent meeting, the Illinois Telephone Association's general industry coordination committee outlined an association program, working for the elimination of the 10 per cent federal excise tax on telephone service.

Some of the steps the association plans to take are as follows:

(1) Furnish bill inserts to all companies upon request;
(2) Work with the Illinois State Federation of Labor-CIO, to include articles in their statewide publication urging elimination of the tax;
(3) Send an association letter to every chamber of commerce in Illinois (over 500) and every Lions, Kiwanis and Rotary Club asking for help in getting their members to write Congressmen urging repeal of the tax;
(4) Urge every telephone company in Illinois to ask their employes to write their Congressmen on this issue.

The tax on local telephone service is scheduled for automatic termination on June 30, 1961. However, it is necessary that the telephone industry and telephone users campaign vigorously to let the tax die, or it is very possible that Congress will again extend the tax as was done in the 1960 session.

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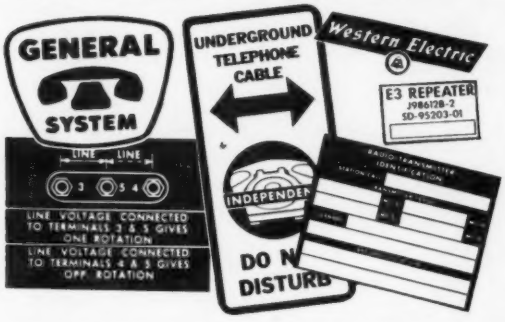

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MODEL	FREQUENCY RANGE	SELECTIVITY	LEVEL FULL SCALE	ACCURACY	TYPICAL FILTER SELECTIVITY
2171	60 Cycles to 4 Kilocycles	30 Cycle or 50 Cycle Filter	−68 to +32dbm	±.5db −80 to +32dbm 300 Cycles to 4 Kilocycles	**30 CYCLE FILTER** 6db− 35 Cycles 60db−250 Cycles
2174A	300 Cycles to 400 Kilocycles	50 Cycle or 100 Cycle Filter*	−68 to +32dbm	±.5db −80 to +32dbm 300 to 400 Kilocycles	**50 CYCLE FILTER**** 6db− 60 Cycles 60db−450 Cycles
SPURIOUS RESPONSE: Below 60db LOW INTERMODULATION: Below 60db POWER REQUIREMENTS: 115 V. A.C.−50/60 Cycles. WEIGHT: 28 lbs.					**100 CYCLE FILTER** (STANDARD) 6db−140 Cycles 60db−900 Cycles
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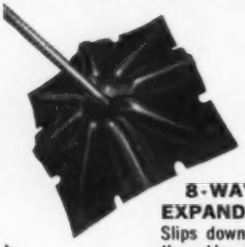

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Slips down a hole no bigger than the base plate. 8 rib reinforced blades expand into solid earth all the way around.

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SCREW ANCHOR
Pitch-controlled blade goes down fast and adds to holding power. Can be installed by hand.

POWER INSTALLED
SCREW ANCHOR
Lets you mechanize screw anchor installation with your power hole-digging equipment. Anchors install in 6 to 8 man minutes.

NEVER-CREEP
ANCHOR
Pulls entirely against solid, undisturbed earth. Holds more load than any other type of anchor.

STEEL CONE ANCHOR
Cuts the costs of guying in hardpan, abode clay, or rocky soil. Gives exceptional holding strength.

EXPANDING
ROCK ANCHOR
Expands and wedges against solid walls of rock. Does away with expensive lead or concrete grouting.

CAG1-B

A. B. CHANCE CO.
CENTRALIA, MISSOURI
A. B. Chance Company of Canada, Ltd., Toronto

General Companies Announce Organization Changes

William C. Rowland has been named operating vice president for General Telephone Co. of Indiana, effective Apr. 3. Mr. Rowland, operating vice president for General Telephone Co. of Wisconsin, succeeds J. F. Van de Vusse, who becomes director of public relations for the Indiana company.

Effective the same date, John F. O'Connell, general plant manager of General Telephone Co. of Pennsylvania, succeeds Mr. Rowland as operating vice president for General Telephone Co. of Wisconsin.

Eugene L. Langley, presently division plant superintendent, General Telephone Co. of the Southwest, becomes general plant manager for General Telephone Co. of Pennsylvania, on Apr. 3.

Marvin C. Diefendorf, director of public relations for the Indiana company, joins the New York headquarters public relations staff of General Telephone & Electronics Corp.

Born in New Castle, Penn., Mr. Rowland was graduated from Westminster College in 1949 with a bachelor of science degree. He was associated with the Bell Telephone Co. of Pennsylvania before joining the General System as plant engineer for General Telephone Co. of Pennsylvania. Mr. Rowland subsequently held numerous positions in the engineering department of the Pennsylvania company, becoming general plant manager, with headquarters in Erie, in 1956. In 1958 he became operating vice president for General Telephone Co. of Wisconsin.

A veteran of more than 31 years in the telephone industry, Mr. Van de Vusse is a native of Allegran County, Mich. He served with Tri-County Telephone Co., South Haven, Mich., in various positions in the commercial department, and was division commercial manager for that company when, in 1943, he became general manager of Atlas Advertising Co., Fort Wayne, Ind., now part of General Directory Co. In 1947, Mr. Van de Vusse became general manager and director for Union Telephone Co., Owosso, Mich., a predecessor company of General Telephone Co. of Michigan. He became president and director of Illinois Telephone Co., Bloomington, a predecessor company of General Telephone Co. of Illinois, in 1953. Mr. Van de Vusse was named operations vice president for General Telephone Co. of Indiana in 1956.

Mr. O'Connell was born in Madison, Wis., and was graduated from the University of Wisconsin with a B.S.E.E. degree in 1947, after previously attending Notre Dame and Leland Stanford universities. He served with the Commonwealth Telephone Co. in Madison, a predecessor of General Telephone Co. of Wisconsin, before transferring to General Telephone Co. of Illinois, where he subsequently served as plant engineer, maintenance superintendent, and chief engineer. In 1959, Mr. O'Connell transferred to General Telephone Co. of Pennsylvania as chief engineer, and last year became general plant manager for that company.

Mr. Langley was born in Beaver, Okla., and attended Texas A & M College. He joined the General System in 1948 in the plant department of General Telephone Co. of the Southwest. He held various positions in the plant department, subsequently becoming general equipment supervisor in San Angelo, Tex., in 1954, and division plant superintendent in Sherman, Tex., in 1959.

Born in New Haven, Conn., Mr. Diefendorf attended Missouri Valley College. He joined the General System in 1949 as commercial representative with General Telephone Co. of California. He subsequently held various positions in the commercial and public relations departments of that company before transferring to General Telephone Co. of Indiana as director of public relations in 1957.

Dr. L. A. Carapella Named to GD/E Research Division

Dr. Louis A. Carapella has joined the research division of General Dynamics/Electronics, with responsibility for technical liaison within the division and

DR. L. A. CARAPELLA

with other divisions of General Dynamics Corp., it has been announced by Dr. Nisson A. Finkelstein, vice president and director of research.

Dr. Carapella went to General Dynamics from the Sylvania-Corning Nu-

clear Corp. at Bayside, N. Y. Earlier, he had served as technical director for the Jessop Steel Co.; as manager of nuclear fuel manufacturing for the atomic power division of Westinghouse Electric Corp.; and as director of metal container research for the Continental Can Co.

During World War II, he was head of the metallography department of the Naval Research Laboratory.

Dr. Carapella was born in Tuckahoe, N. Y.

He received a bachelor's degree cum laude in mechanical engineering from Michigan State University, and master's and doctor's degrees in metallurgy from Harvard University.

He was elected to Sigma Xi and Tau Beta Pi, honorary societies, and holds memberships in the American Institute of Mining, American Society for Metals, and the American Institute of Management. He is listed in *Who's Who in Engineering*, and *American Men of Science*.

C. E. Boat Named Sales Manager, Vermeer Mfg.

Carl E. Boat has been named manager for all sales divisions of the Vermeer Mfg. Co. The Vermeer company manufactures trench digging equipment

C. E. BOAT

for use of utilities. Mr. Boat has been associated with Vermeer's sales department since 1950.

He succeeds Bill Willinger, who resigned to establish a new company, Willinger Brothers Equipment Co. in West Salem, Wis. The Willinger Brothers company will sell Vermeer industrial equipment in Minnesota and Wisconsin.

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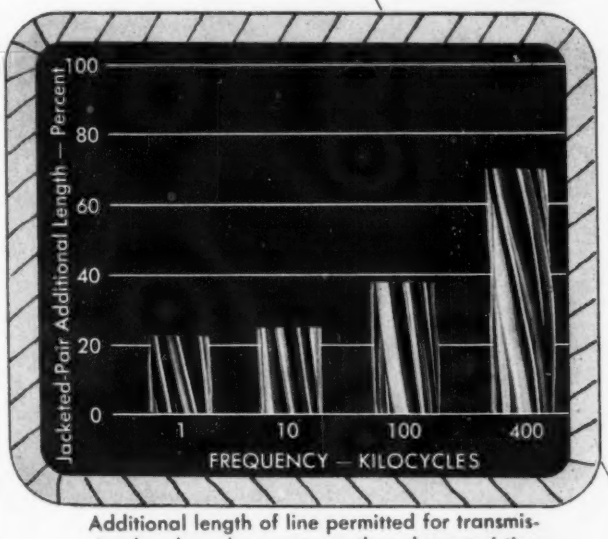

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Hughes-Keenan Acquires Skyworker Aerial Lift

The Skyworker, hydraulic aerial lift, has been acquired by the Hughes-Keenan Division of U. S. Air Conditioning Corp., Delaware, O.

In making this announcement, Glen W. Way, president of U. S. Air Conditioning, stated that manufacturing, sales and servicing have been taken over by Hughes-Keenan at its Delaware plant.

The purchase by Hughes-Keenan included the complete Skyworker line: Model 1025 for telephone line work, Model 1030 for lamp work, 1035A for tree trimming, 1035B for utility line work and 4033 and 3030 dual work platform models. The acquisition also included the Skyworker accessory equipment line.

Mr. Way stated that several new developments for the Skyworker product would soon be introduced, including a Fiberglas upper boom.

The Hughes-Keenan purchase of Skyworker brings another hydraulic product into the company's production and servicing facilities. Hughes-Keenan manufactures the Roustabout materials handling crane and numerous lines of truck bodies.

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National Bldg., Seattle, Wash.

3217 Montrose Blvd. Houston, Tex.

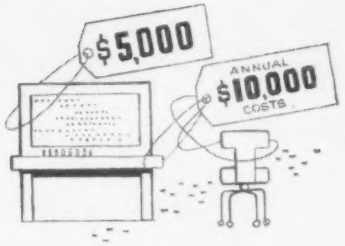
2727 Oak Lawn Ave., Dallas 19, Tex.

2035 S. W. 58th Ave., Portland 1, Ore.

MORE TOLL CALLS—ADDED PROFIT OR COST?

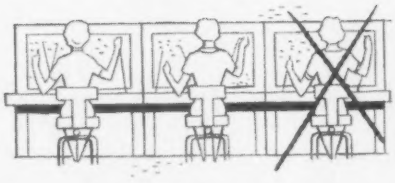
Let's analyze some statistics. Toll calling, on the average, is increasing at a rate of about 10% annually! On the face of it, this would seem favorable to the operating company.

But—consider that, at this rate of growth, within 3 years you will have to provide one additional toll position, and man it, for every three you have now. A toll position costs approximately $5,000. To keep that position in service costs an additional $10,000 per year.



Another important figure to keep in mind is that 50% of all toll calls fall within the 15-30 cent rate. These calls, handled and ticketed manually, cannot show any profit at all in almost every case.

The installation of automatic toll ticketing equipment will cut ⅓ off your operator load if you only handle station to station calls with it—premium toll ticketing will effect even greater cuts in operator loading.



North Electric AuTollizer® automatic toll ticketing equipment will;

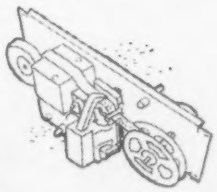
1. Cut your operator load
2. Enable you to handle more toll traffic without adding toll positions and operators
3. Bring new efficiencies to your toll business
4. Increase subscriber toll calling

North Electric AuTollizer equipment will do all this...AND...

PAY FOR ITSELF IN LESS TIME THAN YOU THINK!

This is not a "claim" nor an advertising copywriter's "dream"—THIS IS FACT—YOUR NORTH ELECTRIC REPRESENTATIVE CAN PROVE IT FOR YOU!

Put new profits in your toll business, now, with AuTollizer toll ticketing equipment, another product for better telecommunications from



THE DYNAMIC FORCE IN THE TELEPHONE INDUSTRY

NORTH ELECTRIC COMPANY

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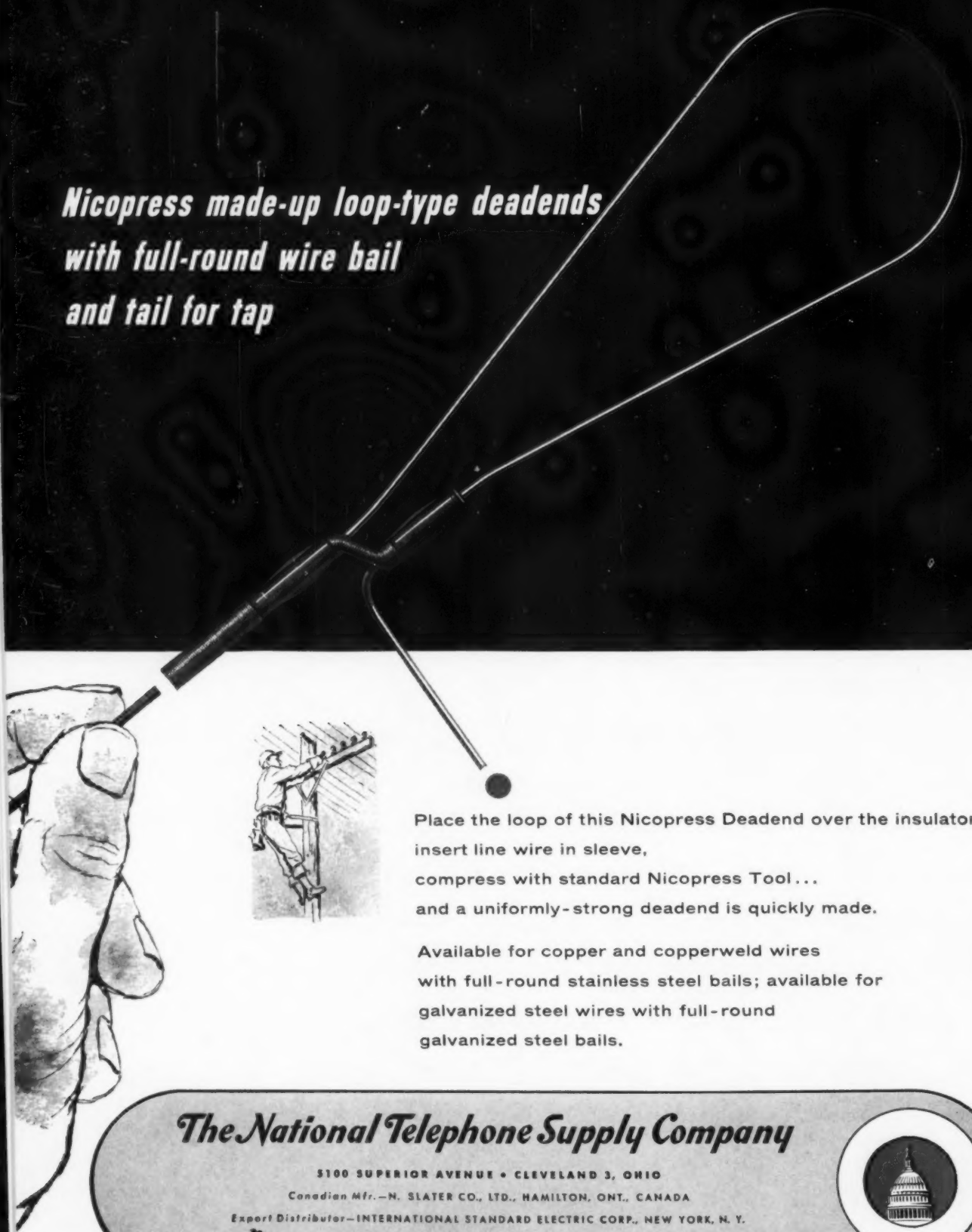
No. 3 in a series of factual presentations on North Electric AuTollizer®.

Nicopress made-up loop-type deadends with full-round wire bail and tail for tap



Place the loop of this Nicopress Deadend over the insulator...
insert line wire in sleeve,
compress with standard Nicopress Tool...
and a uniformly-strong deadend is quickly made.

Available for copper and copperweld wires with full-round stainless steel bails; available for galvanized steel wires with full-round galvanized steel bails.

The National Telephone Supply Company

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